A Lecture
ON
SOME OF THE LESS COMMON ASPECTS OF PNEUMONIA.

DELIVERED TO THE YORK MEDICAL SOCIETY.

BY

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PNEUMONIA is no longer regarded as a local inflammation of the lungs attended or followed by a rise of temperature, but rather as the localized expression of a constitutional state and due to the operations of a micro-organism.

Speaking generally, it is a striking fact that although a specific micro-organism is the recognized cause of a particular disease, and that without the microbe the malady is impossible, yet something more than the presence of the micro-organism in the body is required to explain disease. Tubercle bacilli, for example, may be present in the body without giving rise to symptoms. People harbour Eberth's bacillus for years, and go about in apparent health spreading typhoid fever, although they themselves are not suffering from the fever. The pneumococcus is present in the mouth in fully 25 per cent. of men and women, and yet these persons remain free from pneumonia. It would seem, therefore, as if pneumonia was something more than the presence in the body of pneumococci. There are the patient and his idiosyncrasies, the specific micro-organism, the toxins generated by the micro-organism, and the cellular reaction of the individual to the microbe and its toxins. When, therefore, the hitherto harmless diplococci present in the mouth become harmful, either the micro-organisms have become virulent or some inhibitory power previously exercised by the human body has been temporarily withdrawn, and by this removal the microbes assume characters not hitherto displayed. It is interesting to know that while under ordinary circumstances the diplococci in the mouth are not harmful to the host, yet they are just as pathogenic to animals as the diplococci obtained from a culture from the sputum of a pneumonic patient.

While insufflation of the diplococcus from the mouth into lungs previously irritated or weakened may cause pneumonia, it is possible that the microbe may effect an *entrée* by such other channels as the tonsils, the nasal or gastro-intestinal mucous membrane. In the body there are certain sites of selection for micro-organisms. No matter the portal of entry, tubercle bacilli finally make their way to the lungs; Eberth's bacilli reach the lower part of the small intestine; while such of the larger forms of life as the *Ankylostoma duodenale* are found in the upper part of the small intestine. The lungs are the organs of selection, but occasionally pneumococci fail to be entangled there; the micro-organisms reach the membranes of the brain, either through the nasal mucous membrane or blood, and, setting up a primary meningitis, the symptoms are largely cerebral, although the patient's appearance is that of a person suffering from pneumonia.

Mortality.

The opinion has been expressed that pneumonia within the last few years has not only become more frequent, but more fatal. Through the kindness of the Registrar-General, I am able to give the following information bearing upon this point.

DEATHS FROM PNEUMONIA IN ENGLAND AND WALES IN THE YEARS 1901-8.

Lobar Pneumonia.

	Males.	Females.
In 1901	1,437	809
,, 1902	2,184	1,291
,, 1903	2,017	1,191
,, 1904	2,345	1,546
,, 1905	2,982	1,905
,, 1906	3,117	1,874
,, 1907	3,341	2,044
,, 1908	3,030	1,788

Broncho-pneumonia.

	Males.	Females.
In 1901	8,022	6,984
,, 1902	9,974	8,634
,, 1903	9,269	8,156
,, 1904	10,345	9,100
,, 1905	10,022	8,783
,, 1906	9,057	8,219
,, 1907	11,237	10,080
,, 1908	10,270	8,764

These figures show an increase of lobar pneumonia during recent years, but the Registrar-General remarks that "the increase in the number of deaths certified as due to croupous or lobar pneumonia probably indicates increased accuracy of certification rather than increased prevalence of the disease."

Pathology.

That exposure to rapid changes of weather predisposes to pneumonia is shown by the fact that 75 per cent. of the men who suffer have followed an out-of-door occupation, hence the liability of ordinary labourers to the disease. Outdoor work, however, is not *per se* a cause, since pneumonia occurs in men and women who are following indoor occupations. No month of the year is exempt from the disease, but it is in the colder months that it is most frequently met with. In my own cases the right lung had been most frequently affected, and of it the lower lobe. In the larger percentage of cases coming to an autopsy grey hepatization has been found. It would be interesting to know what percentage of patients get safely through the stage of grey hepatization. Because this condition is so frequently found after death it has been maintained that therefore it is one from which recovery never takes place. Since red hepatization rarely extends beyond the seventh or eighth day, and usually occurs as early as the third and fourth, what is the condition of the lung after the fourth day in patients who have a crisis on the seventh or eighth day, and who recover? Has it been only red hepatization? There are no means of knowing. All that is known is that in the majority of patients who die at this period, even as early as the fourth day, grey hepatization of the lungs is found.

Early delirium is by some physicians considered a dangerous sign; while it is probably more pronounced in alcoholic subjects, and lasts pretty well all through the illness, it yet occurs in persons of temperate habits. Within the last few weeks I have seen two patients suffering from acute croupous pneumonia, both young, healthy, and temperate men, aged 20 and 29 respectively, in whom delirium did not appear until the crisis was reached and the temperature had fallen to the normal. The delirium, which under these circumstances is toxaemic, may be of a severe character, and the patient with difficulty be kept in bed, but, after continuing for two or three days attended by insomnia, the patients pass into a prolonged natural sleep; they sleep for twenty-four hours or more, and awake perfectly rational. Delirium with soft rapid pulse, profuse perspiration, and cyanosis coming on in the early stage of pneumonia, are not hopeful signs.

One of the most distressing features in nearly all cases of pneumonia is the want of sleep. The insomnia undermines the nerve energy of the patient and exhausts him, and, as the sleeplessness may last for several days, it partly explains the light-headedness and wandering which are occasionally exhibited towards the sixth and seventh day of the illness. Notwithstanding the fact that insomnia is a distressful symptom, it is not wise to try to overcome it by giving a narcotic such as opium or morphine. The administration of a narcotic has, in my experience, transformed what was otherwise a fairly hopeful case into one of a hopeless character. It is a strange circumstance that, although the breathing is often short and rapid, and the patient appears to be the subject of considerable respiratory distress, he will often not acknowledge that he feels embarrassed in his breathing. It is otherwise if there is a swollen or catarrhal condition of the bronchial mucous membrane. This creates a mechanical obstruction to the breathing, throws more strain upon the right side of the heart, and adds considerably to the gravity of the prognosis.

A diplococcus underlies most cases of pneumonia, but other organisms may cause the disease—for example, the influenzal bacillus, the *Bacillus coli*, and Eberth's bacillus

A short time ago I had under my care a sailor from a French man-of-war on the Tyne who had all the physical signs and symptoms of pneumonia, but the appearance of the patient, even in the absence of signs of intestinal derangement led me to regard and to treat the case as one of enteric fever in which the lesion was on the side of the lungs and not in the intestinal canal. For three weeks the temperature remained high, then fell and remained normal so long as the dieting of the patient was conducted on enteric lines, but after an absence of pyrexia for ten or twelve days the nurse, yielding to the entreaties of the patient for solid food, gave him a good meal of fish and potatoes, with the result that the temperature again rose and the patient passed through another three weeks of fever—a typical enteric relapse, yet with all the physical signs in the thorax and none in the abdomen.

Since several organisms can cause inflammation of the lungs it is difficult to say whether all pneumonias are of the truly fibrinous type and lobar in distribution.

Friedländer's pneumo-bacillus produces a form of inflammation of the lungs in no way differing in physical signs and symptoms from the pneumonia caused by the *Diplococcus lanceolatus* of Fraenkel, yet Fraenkel maintains that the only micro-organism capable of inducing true croupous pneumonia is the diplococcus just referred to, all atypical pneumonias being the result of other organisms.

Many medical men must be familiar with what for the moment may be called the "abdominal type" of pneumonia. A man or woman is suddenly seized with acute abdominal pain, accompanied or not by vomiting; this is followed by a rigor and probably by a rise of temperature. In the chest, on careful examination, nothing is detected, nor is there anything detected in the abdomen except pain on pressure located over the appendix or somewhere else in the abdominal cavity. Patients under these circumstances have been submitted to surgical operation without anything having been found, the after-course of the case indicating that the disease was croupous pneumonia, and that the pain had been due either to an inflammatory condition of the diaphragm, or, as Head has shown, had been reflected and explained by the lowest six intercostal nerves sending twigs to the abdominal parietes as well as to the lower portions of the pleura, whereby, as in cases where the eleventh thoracic nerve is irritated, pain is referred to the iliac fossa. Some of these abdominal cases exhibit metastasis.

The son of a medical friend left his office one summer afternoon in perfect health, and rode on his bicycle to his rooms up rather a hilly street in Newcastle. On reaching his lodgings he dismounted, but in doing so he was seized with acute abdominal pain followed by retching and collapse. He was seen shortly afterwards by a doctor, who put him to bed, applied warmth to the feet and abdomen, and gave restoratives. The patient had a wretched night, and next day his sufferings were in no way abated. I was called in consultation at midnight to find the youth in a state of collapse, with feeble pulse and retching, and complaining of acute abdominal pain. On examining the chest I heard a few râles, for the most part bronchial but not confined to one half of the chest. As the symptoms were abdominal and suggested perforation and the patient was only in rooms, it was decided to remove him to the infirmary in case abdominal exploration should be called for. Between the time of coming to this decision and his admission to the infirmary, a matter of about three hours, the pain in the abdomen had considerably subsided, the collapse was less, the temperature had risen, and there were unmistakable signs of pneumonia, including dullness and tubular breathing. No operation was therefore performed. The patient was transferred to a small ward, and for days he had all the physical signs and symptoms of pneumonia. All at once, when the illness was apparently running a normal course and the patient seemed to be doing well, he was again suddenly seized with acute abdominal pain. In my absence he was seen by one of the infirmary surgeons, who regarded his condition as extremely critical and calling for abdominal section, but before the preparations for the operation were completed and a telegraphic reply had been received from his parents the patient died. No autopsy was allowed, but the surgeon was of opinion that death had come from some acute abdominal cause and not from inflammation of the lungs.

Epidemics of Pneumonia.

Occasionally pneumonia assumes epidemic characters. While this is specially so during periods of influenza, other conditions may prevail. The epidemic of pneumonia which swept over Middlesbrough a few years ago, with rather appalling results, for a time baffled all attempts at explanation Owing to the fact that many of the men who were affected had been engaged in the ironworks, it was thought that the nature of the employment had something to do with their illness. The epidemic having reached considerable proportions, the Local Government Board sent down one of its medical inspectors, Dr. Ballard, to inquire into the nature and causes of the epidemic. It was not until Dr. Foulerton discovered a bacillus not unlike the *Bacillus coli communis* that the true nature of the disease was determined, and the cause of the pneumonia demonstrated to be tainted food which had been introduced into Middlesbrough.

While there is not the least doubt that the epidemic in Middlesbrough was pneumonia, although not due to the usual diplococcus, some of the so-called epidemics of pneumonia which have occurred in other parts of the country have not been pneumonia at all, but enteric fever with strong pulmonary tendencies. It is but a step from epidemic to endemic conditions, and yet even in these other causes may be in operation than those immediately suspected.

I was called in consultation to a neighbouring town to see a case of pneumonia in a working man; two or three days afterwards I was called by another practitioner to see another case of pneumonia in a working man who was living only a few doors away from the house previously visited. Within a week I was called by yet a different practitioner to see a third case of pneumonia in the same street. These three cases of pneumonia occurred within an area of a hundred yards. How much of this was merely coincidence, was the result of the condition of the atmosphere at the time, or of the nature of these men's employment, it is difficult to say. When a similar outbreak occurs in a school there is usually some flaw in the drainage. In one such epidemic of pneumonia in a school, sewer air was found to be entering a large dormitory by a ventilator in the wall.

Foul air, like dust and smoke, probably only predisposes to pneumonia. In Germany, owing to the increased quantity of smoke in the atmosphere of the large towns consequent upon the recent commercial prosperity of that country, acute inflammatory diseases of the lungs have more than doubled themselves during the last ten years. Experiments upon animals carried out by Asch have shown that if they are exposed first to smoke for a week or two, a certain number of hours daily, and are afterwards forced to inhale the *Aspergillus fumigatus*, an acute inflammation of the lungs develops more quickly and is more severe than in other animals not exposed to smoke, but only to the micro-organism. In Johannesburg the mine officials are of opinion that the diseases of the lungs which the miners suffer from are not due to the nature of their employment underground, but to the dust storms which prevail in the town and district. Dust, whatever its source, when inhaled may predispose to pneumonia, but it is more likely to induce bronchial irritation. While there is no reason why lobar inflammation of the lungs should not, quite apart from occupation, occur equally in a gold miner as in another person, still it is so much more prevalent in miners, and in them its effects are more serious, that there can be no doubt as to the greater susceptibility of miners working in hard rock to pneumonia, and their greater mortality from it compared with other occupied males in the same place. Doubt has been expressed as to whether dust is capable of causing a true lobar pneumonia. Fraenkel and Aufrecht maintain that the lesion is catarrhal and not croupous, but a section of the lung of a Kolar gold miner sent to me by Dr. O'Donnell (Mysore, India) reveals true fibrinous pneumonia. Lobar pneumonia is known to be a frequent cause of death among the miners at Mysore.

While direct injury to the lungs by inhalation of dust may predispose to pneumonia, external injury to the chest wall, even where no ribs are broken, is also capable of bringing about the same result. I admit that this statement may lead to unlimited speculation from the point of view of workmen's compensation. The physical signs and symptoms of traumatic pneumonia do not show themselves until the second or third day after the accident.

Usually pneumonia is not an infectious malady, and yet there is sufficient evidence to show that under certain circumstances it is as fatal in its consequences when it enters a household as the worst type of cholera. In 1882 Dr. Patchett told the story of an outbreak of pneumonia in a lonely farmhouse occupied by four brothers and one sister, all over the age of 60. They had all been in good health previously. One member after another of that

family became ill, and within ten days all had died of pneumonia. The shortness of time in which this family was wiped out suggests that the disease was of the nature of a local epidemic, and that all the members had become ill from one and the same source, but there was yet a sufficient length of time for infection or contagion to operate. Pneumococci, virulent to commence with, acquire additional pathogenic powers in passing from man to man.

One evening Dr. William Slater, of Newcastle, asked me to see in consultation with him a ship's captain who had returned a few hours previously from Hamburg, and who was the subject of a severe attack of pneumonia. Within two days this man died. Rapid decomposition of the body took place, and was attended by such an evolution of gas that the lid of the coffin was burst open and the house flooded with gas, the odour of which was almost intolerable. On the day of the funeral the wife, who had nursed her husband, and who until then had been quite healthy, developed pneumonia; she died on the sixth or seventh day of the illness. On the evening of her funeral the son developed pneumonia with exactly the same physical signs as the father and mother, but although the attack was severe, he made a good recovery. The different dates of the development of the pneumonia in mother and son do not permit of our eliminating altogether the influence of personal contact.

Chill.

As a causative agent of pneumonia the influence of chill has been doubted. In Sir Ernest Shackleton's Antarctic Expedition, although the men were exposed to the intensest cold, none of them suffered from pneumonia, but this only shows that in addition to cold there must be a predisposed state of the body, and the presence of pneumococci in the respiratory passages. Fraenkel is of the opinion that cold is dangerous when, the superficial blood vessels having been previously dilated by severe exertion, an individual is suddenly exposed to some chilling influence.

A fortnight ago I saw with Dr. Jepson, of Durham, a strong, athletic young man suffering from double pneumonia, with marked signs of pretty extensive consolidation of both lungs. Two days before his illness he had been beagling, and had run, he thought, about thirty miles. Fatigued, and in a state of perspiration, he had lain down upon the ground. In this case the possible influence of chill in predisposing to pneumonia could not be altogether excluded.

Pneumonia and Pregnancy.

Acute inflammation of the lungs may develop at any time during the course of pregnancy, immediately before the commencement of parturition, or after the confinement is over. Occurring during the latter months of pregnancy, it is a serious complication to mother and child, since the enlarged uterus mechanically embarrasses the breathing.

A pluripara, aged 28, whom I saw in consultation with Dr. Taylor of Chester-le-Street, was in the sixth month of pregnancy and the subject of pneumonia. She gave the story of a chill, followed by shivering and pain in the left shoulder. On the following day the breath sounds were altered at the base of the left lung, and on the day succeeding this there were dullness over the left base and a temperature of 103° F. On the fourth day after the chill there were pain over the right costal arch, dullness at base of right lung, rusty sputa, friction over the base of heart, respirations 48, pulse 120, and temperature 103° F. Both bases were now dull, there were tubular breathing with small crepitations and exaggerated vocal fremitus. Owing to the lower half of the abdomen being occupied by a pregnant uterus, the breathing was extremely difficult. It was a question whether premature labour should be induced; but even if this had been agreed upon, the urgency of the dyspnoea prevented the patient lying down for the operation to be performed. It was decided not to induce labour, but to leave the case to Nature, and in this respect the decision was wise, for three hours after the consultation the patient miscarried. The child, born alive, died shortly after birth. There was no difficulty with the placenta or with the lochia; the pneumonia ran its course, and the patient made a good recovery.

Experience of this and other cases rather leads me to believe that the best results are obtained not by inducing labour, but by leaving the case to Nature. It is fortunate that in most of these cases labour is precipitate and the confinement is got over quickly. By this means the strain upon the heart is shortened. According to Wallich, pneumonia interrupts pregnancy in one-third of all cases before the sixth month, and in two-thirds from the sixth to the ninth month. Maternal mortality in pneumonia in pregnancy is very high—it is anything above 50 per cent., and the fetal mortality about 80. When pneumonia occurs in the eighth or ninth month of pregnancy the infant may be cyanosed when born, develop pneumonia the day after birth, and recover; but a large percentage of the infants die. Pneumonia may develop just before parturition, as in the following case:

Mrs. S., aged 30, a pluripara, went shopping on October 30th. On her way home she suddenly felt very ill, was seized with violent headache, and had a slight rigor. On the following day labour came on, one week before the expected time, and although this was quickly got over she had such violent headache that the doctor had to give her some medicine to relieve the pain. She slept badly that evening, and on the following day her temperature was 103°, pulse 110, and the headache was still persisting. Two days afterwards, when seen by me in consultation, she had been seized with severe pain in the left chest; temperature was 103° F., pulse 120, and respirations 40 per minute; there was dullness over the base of the left lung posteriorly, the breathing was difficult, and the expectoration viscid but not rusty. The heart was satisfactory and the lochia normal. Salipyrin relieved the headache and steadied the temperature. While taking strophanthus and quinine her crisis came and she made a good recovery, the course of the confinement in no way being interfered with.

It is different when pneumonia develops after a confinement, for whether the micro-organism has been absorbed from the utero-tubal or vaginal mucous membrane, or has entered the body from without, there is a greater tendency for the disease of the lung to become septicaemic. This circumstance raises the very important question whether it is not rather the resistance of the individual to pathogenic organisms than the virulence of the organism which determines the type the inflammation of the lung will take. As Edwin O. Jordan[2] says in alluding to experiments with pneumococci, susceptibility is characterized by general septicaemic infection, and resistance by the occurrence of a localized process. Healthy men and women are resistant to pneumococcal infection, but after a confinement the resistance of women is reduced, so that pneumonia developing under these circumstances tends to assume septicaemic characters, which under other conditions would probably not be the case.

I cannot recall a case of acute ante-natal pneumonia, or the case of a child born suffering from the disease, while the mother herself was free from pneumonia. The circumstance, however, is known to occur. Professor Stuart McDonald, of the Newcastle College of Medicine, made an autopsy on an infant one day old, who had died of lobar pneumonia, while the mother had remained quite well. There is perhaps nothing so very unusual in the event when it is remembered that infants are born suffering from infectious diseases, while the mothers show no signs of such. The French obstetrician Mauriceau was born, it is said, with the vesicular eruption of small-pox upon his body, the malady being prevalent in the district at the time, but the mother had never shown the slightest sign of variola or anything to suggest that she had been ill.

Pneumonia in Infants.

It has been my fortune of late to see several cases of pneumonia in young children, and as the conditions in infants differ in some respects from those observed in adults, I will briefly allude to them. Such physical signs as dullness, tubularity of breathing, and previous history, show that the disease I refer to is primary lobar pneumonia and not an inflammation of the lung a sequel to pre-existing disease. Infants, unlike adults, do not have a rigor, but instead there is vomiting. In many of the patients, even at a comparatively early stage of the malady such as the second or third day, there is a marked tendency to collapse, which, if not immediately dealt with, may be fatal. It is to this collapse I particularly draw attention, as well as to the fact that the face, instead of being flushed as in adults, is oftener pale.

In one of my patients, the 6 months old daughter of a medical friend, whose illness began with signs of a head cold and sickness, followed a few hours afterwards by rapid breathing, there quickly supervened signs of consolidation at the base of the right lung, with crepitations and tubularity of breathing. On the third day of the illness she became suddenly collapsed and passed into a semicomatose condition in which she was unable to swallow. She was given an enema of saline, chicken broth, and brandy, and in a short time afterwards was so restored that she could swallow. On the eighth day of the illness the base of

the left lung became consolidated; on each of the four succeeding days there were fairly sudden and sharp collapses, from which she rallied after the administration of an enema with stimulant. Small doses of nux vomica and digitalis were also given by the mouth combined with an expectorant. After fourteen days, during which this infant, on account of her respiratory distress, had only the briefest snatches of sleep, she fell asleep for four hours. This was the turning point in her illness.

A similar tendency to recurrences of collapse was observed in the following case:

I saw a child, aged 16 months, son of a Brazilian naval officer, in consultation with the doctor of the Brazilian gunboat. Here, too, the lesion first affected the base of the right lung. Occasionally after the third day there would supervene collapse, during which the temperature would fall to 96° F., and remain thus for an hour or two, during which the infant would be in a state of semi-stupor, quite indifferent to his surroundings or what was done to him. By means of hypodermic injections of caffeine at one time, and at another of ten drops or more of camphorated oil, coupled sometimes with a small enema of beef tea and brandy, the child would rally. In this patient, while the base of the right lung posteriorly was the part first affected, about the eighth day the lower and middle portions of the right lung became affected and the patient passed through another attack of pneumonia attended by similar collapses and falls of temperature, but successfully met by means of caffeine, camphor, and stimulating enemata.

The collapses in the pneumonia of young children resemble in some respects the depressions which occur in ptomaine poisoning attended by low temperature, only the semi-stupor is more marked.

Incomplete Recovery.

When pneumonia has not proved fatal, recovery may be complete or incomplete. Setting aside empyema as a sequel of pneumonia, I wish to draw attention to a pathological condition in the lungs—namely, the morbid anatomy of those unresolved pneumonias which end in fibrosis and chronic phthisis, conditions to which both Osler and Babcock in their books allude. The final conditions are somewhat analogous to those observed in lungs irritated by dust. The inhalation of dust causes pneumoconiosis. The effects of dust upon the lungs of dogs and rabbits in the early stages of an alveolitis are shown on the lantern slides by the proliferation of epithelial cells and the presence of large phagocytic cells which have englobed dust particles. The later stages are thickening of the alveolar walls and increase of the fibro-connective tissue of the lung, especially around the small bronchi and the blood vessels, but in some of the other slides loops of capillaries can be seen bulging into the exudate within the alveoli, and inducing organization of the exudate. What would have happened eventually here had the patient lived would have been a marked increase of the fibrous tissue of the lungs, the fibrosis being the result of organization arising within the alveoli and the incorporation of the alveolar wall with it, whereas in pneumoconiosis the fibrosis rather proceeds from the wall towards the alveoli. As a consequence of organization of the exudate in unresolved pneumonias there take place thickening and hardening of the lung, followed by retraction and deformity of the chest wall.

Treatment.

I think the limits of time have already been exceeded. It is sufficient to say that I have not seen any striking result follow the use of pneumococcal serum, nor, although often giving great relief to the breathing, can I recall a case of pneumonia having been saved by the inhalation of oxygen. Strychnine and digitalis have given me, on the whole, the best results; with pneumonia, as with many other illnesses, it is not the disease solely that requires to be treated, but the patient with the disease.

REFERENCES.
[1] *Lancet*, 1882, vol. i, p. 305. [2] *General Bacteriology*, 1909, p. 100.

A VERY successful meeting of the South-Eastern Division of the Medico-Psychological Association was held at Hanwell Asylum on April 26th, and was attended by a large number of the members of the Division. After the wards of the historic building had been inspected, the members were entertained to luncheon by Dr. Percy J. Baily, the medical superintendent. Subsequently, at the meeting of the Division, Dr. Baily read a paper giving an account of the history of the institution, with special reference to the time when Conolly put into practice his humane ideas of non-restraint in the treatment of the insane. Papers were also read by Dr. Devine on Kraepelin's clinic, and by Dr. Phillips on the treatment of melancholia by the lactic acid bacillus.

An Address

ON

SOME POINTS CONCERNING PNEUMONIA AND PNEUMOCOCCAL INFECTIONS IN CHILDHOOD.*

BY

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I PROPOSE to deal with some points concerning pneumonia and pneumococcal infections in children as illustrated by some cases from the Evelina Hospital. While all will agree that bronchopneumonia is the more frequent type in early life, I wish to emphasize the fact that the lobar variety is commoner than is often supposed. Thus, among 150 of my own cases I found that 65, or 43.3 per cent., were of the lobar type. The chief clinical distinctions between the two are these: (1) Lobar pneumonia is almost always primary, while bronchopneumonia is very frequently secondary; (2) the onset of lobar pneumonia is sudden and the symptoms are well marked, whereas bronchopneumonia begins insidiously as a rule; (3) the temperature in the lobar form tends to be more uniformly high and to end by crisis, whereas in the other the course of the fever is prolonged and irregular and rarely ends abruptly; (4) lobar pneumonia usually affects a localized area of one lung, at any rate to begin with, while bronchopneumonia is bilateral and more extensive; (5) bronchopneumonia tends to occur at a slightly earlier age than lobar.

In lobar pneumonia the exciting cause is the pneumococcus, but in the bronchopneumonic form the infection is usually mixed—at all events, in the secondary cases—though it is true that in some of the primary cases the pneumococcus alone is found. Lobar pneumonia, according to my own experience, is most frequent during the second, third, and fourth years, 56.9 per cent. of my cases occurring during those years, whereas bronchopneumonia chiefly occurs during the first three years of life, as many as 70.6 per cent. of my cases being found in infants under 4 years of age.

In lobar pneumonia one or other of the bases is most frequently attacked, most commonly the left, but in children it is not unusual for the apex of the lung to be affected. It is remarkable that if one apex is involved—primarily, and not as the result of the extension of the disease from the lower lobes—it is practically always the right apex which is attacked.

The temperature in lobar pneumonia is usually high, and may remain for a time uniformly about 103° F. or 104° F., but, speaking generally, it shows more marked remissions in children than in adults. Occasionally, however, the temperature may be misleading in showing no marked rise. The crisis occurs, as in adults, usually between the fifth and seventh days, but in some cases it may be delayed until towards the end of the second week or even later. In mild or abortive cases the fever may terminate on the third or fourth day. An ending by lysis is more common in children than in adults, and was found in 15.3 per cent. of my cases. Usually it is of short duration, and the temperature reaches the normal between the fifth and eleventh days. In bronchopneumonia, on the other hand, the temperature is generally lower and of an intermittent type; in some cases the rise may be only very slight—perhaps not above 100°. The termination is by lysis—generally in two to four weeks—but in a number of cases the temperature does not remain normal until after, perhaps, ten or eleven weeks, or even longer.

The diagnosis of pneumonia in the early stages is frequently a matter of difficulty if the pulmonary signs are not in evidence. Indeed, I am of opinion that in some instances the signs of consolidation may never appear, possibly owing to the lesion being deeply situated, and yet the case run a course consistent with a diagnosis of pneumonia. As an instance, I may quote the following cases:

* Delivered before the Tottenham Division of the British Medical Association.

CASE I.—*Pneumonia without Characteristic Signs in the Chest: Recovery.*

(Under the care of Dr. Charlton Briscoe.)

William R., aged 2 years, had been perfectly well until two days before admission. There was an indefinite history of a fall from his bed while playing, but the accident was not witnessed. Afterwards he was irritable and vomited, but took his food fairly well, and the vomiting did not continue. On admission he was quiet, the temperature was 99.6° F., but quickly rose two degrees, pulse 160, respirations 40. The tongue was furred, the pupils were equal and active, and there was no photophobia. The head was not retracted, and there was no paresis in any of the muscles. The knee-jerks were present, but diminished, the plantar reflex was flexor in type, and Kernig's sign was absent. No abnormal physical signs were found in the chest. The abdomen was flaccid, but both the liver and spleen were enlarged. On the following day the boy was sitting up playing, and the temperature had fallen to normal. The right cheek, however, was noticed to be flushed, and the pulse continued quick, while the respiration-rate remained 40. The percussion note at the right base was slightly impaired, but the breath sounds were normal. At night the temperature rose to 102.2°, and the next morning the child had two convulsions. Later on he was drowsy, and became delirious at night. The temperature continued about 102°, with excursions as high as 105.6°. The respirations varied between 40 and 56, but there were no further signs in the lungs. The blood showed a leucocytosis of 24,200, and Widal's reaction was negative. Lumbar puncture was performed, the fluid being clear and containing a very faint trace of albumen; only very few cells were found after centrifugalization. On the eighth day the temperature fell by crisis and remained normal, the respirations came down to 24, and the pulse-rate to 84. No signs indicative of pneumonia were at any time found in the chest, and the child made a rapid recovery.

CASE II.—*Pneumonia without Definite Physical Signs: Recovery.*

Susan B., aged 9 years, was said to have been quite well until the morning of admission, when she "vomited bright blood." She had had an empyema in the left side of the chest five years previously. She was somewhat dazed; the tongue was furred and the head retracted; temperature 101.4°, rising to 104°; pulse 144, respirations 54. No abnormal physical signs in the chest could be detected. She became very restless and delirious, with occasional cough, laboured irregular breathing, and a bad pulse. During the night she vomited several times, necessitating rectal feeding. On the following morning the temperature was 102°, and the respirations were 56. Slight dullness on percussion was noticed in the right scapular region, but no other signs of consolidation. The heart was considerably dilated, and the pulse rapid and weak. The knee-jerks were absent, and the plantar reflex was extensor. The breath was very foul, and the mouth and gums were dry. Widal's reaction was negative, and no fluid could be obtained by lumbar puncture. On the third day a crisis occurred, and the respirations fell at the same time to 28. The child improved rapidly afterwards, and the knee-jerks returned. She was discharged well in three weeks.

One of the chief difficulties in early diagnosis is to distinguish between pneumonia and meningitis if cerebral signs predominate and pulmonary manifestations are not in evidence—if, that is, the case is one of what is termed the cerebral form of pneumonia. As an illustration of what I mean, I will quote another case of Dr. Briscoe's in which signs suggestive of meningitis were present.

CASE III.—*Lobar Pneumonia: Signs suggestive of Meningitis: Empyema: Abdominal Tuberculosis: Almost Normal Temperature throughout: Death.*

Sarah M., aged 1 year and 8 months, was first taken ill with diarrhoea nine days prior to admission. The diarrhoea ceased, but five days later the breathing became embarrassed, and the child had a constant dry cough. The face was pale, the eyes were sunken, and the breathing laboured. The temperature was normal, pulse weak and rapid, respirations 50. The right side of the chest moved better than the left, which, if anything, was the greater in circumference. At the left base, posteriorly, there was an impaired percussion note, with patchy, tubular breathing, increased vocal resonance, and a few dry crepitations; on the right side the note was resonant. The heart was not displaced, and the abdomen was normal. On the morning after admission the temperature was 100.8°—the highest during the child's illness, but in the evening it was normal, and continued so, the physical signs in the lungs remaining the same for the next three days. The child, however, was slightly sick, and the head became retracted, with the eyes fixed and staring, while the limbs showed marked muscular rigidity. At intervals the patient uttered a shrill, high pitched cry. On the sixth day she was retching continually. The measurement of the chest was equal on the two sides, but on the right side near the angle of the scapula the note was impaired, and faint tubular breathing, with crepitations, could be heard when the child cried; there was also an additional small patch at the free margin of the left lower lobe, just internal to the anterior axillary line. The vomiting and retching continued, and lumbar puncture yielded a drachm of perfectly clear fluid. The percussion note over the left lung remained somewhat dull, but the tubular breathing disappeared, and at the right base also the note became slightly deficient. On the tenth day death occurred. The temperature was practically normal throughout; on the second day it rose, as stated, to 100.8°, and subsequently it once reached 100°, and on two other occasions 99°. At the necropsy there was some excess of fluid in the subarachnoid space, but no meningitis. The lungs showed acute bronchitis. There was a little pleurisy over the left lower lobe, which showed pneumonic consolidation. On the right side there was a large empyema, with collapse of the lower lobe of the lung. In the small intestine was one early tuberculous ulcer, and the mesenteric glands were caseating.

In addition to the difficulty of diagnosis when many signs point to meningitis, this case emphasizes the fact that pneumonia, even when associated with empyema, may occur in children with scarcely any rise of temperature, and affords yet another example of how easily an empyema may be overlooked in the absence of any characteristic signs.

Meningitis may sometimes be a complication of pneumonia, and be due to an extension of the pneumococcal infection. In such cases the brain is found to be covered with a thick, greenish, purulent lymph, which is most extensive over the vertex and cerebellum, but frequently extends to the base, and even to the medulla. The following is an instance of this complication:

CASE IV.—*Whooping-cough: Bronchopneumonia: Pneumococcal Meningitis: Death.*

Rosina H., aged 1 year, was admitted under the care of my colleague, Dr. Nestor Tirard. For the previous two months she had suffered from whooping-cough, but for three days had been short of breath, with pain on coughing. She was a somewhat wasted baby, with typical whooping-cough. The face was flushed, and the veins in the neck were full. Signs of bronchopneumonia were present all over the left lung. The temperature was between 102° and 103°, and continued irregular, but fell to normal after nine days. Four days later it began to rise again at night, and as the signs at the left base did not clear up, paracentesis was performed, when a large empyema was found and evacuated. On the same day there was twitching of the face, and the eyes deviated to the left. The child was continually sick, and general convulsions, with rigidity of the limbs, followed. Death occurred on the following day. *Post mortem* the vertex of the brain was covered with thick greenish lymph, especially on the left side, and extending down deeply into the sulci. A small amount of lymph was present over the cerebellum, but it did not extend to the spinal cord. In the chest there was adhesive recent pleurisy on the right side, and a large localized empyema cavity, which had been successfully emptied, on the left. The left lung was collapsed and studded with bronchopneumonic areas; the right lower lobe was congested. A rabbit which was inoculated with the cerebral exudate died in twelve hours, its blood being found to be teeming with pneumococci.

Occasionally, however, a septic meningitis or septic infection of the brain may follow an attack of pneumonia, the virulence of some septic focus being enhanced by the debility consequent on the pulmonary infection. The following is a case which serves to illustrate this point.

CASE V.—*Bronchopneumonia: Otitis Media: Septic Thrombosis of Cerebral Sinuses: Cerebral Abscesses: Death.*

Albert C., aged 1 year, was admitted under my care. Eleven days previously he was taken suddenly ill with convulsions, and had a constant cough. He continued to be very fretful and restless, and steadily became worse. There was no history of otorrhoea or other illness. The child on admission was of an almost livid hue, the anterior fontanelle was depressed, and a frequent cough added greatly to the general respiratory embarrassment. The respiration rate was 72, and the temperature 103.6°. The chest, however, moved well, and there was no retraction of the intercostal spaces. On the left side there were signs of a patchy consolidation in the lower lobe, and on the right there were a few moist sounds, especially at the base. The knee-jerks were absent. The pulmonary signs became more marked, and the temperature continued irregular. On the fourth day the limbs on the right side suddenly became spastic and the head was retracted. The spasm of the limbs passed off in a couple of hours, but the retraction continued and the child vomited. Repeated convulsions followed, starting on the left side, but later there was universal twitching of the whole body, and the head retraction became more marked. The child died four days after the onset of the cerebral signs. The meningeal vessels were found to be congested, with slight extravasation over the vertex on the right side. A septic thrombus was present in the superior longitudinal sinus, and the veins leading to it were thrombosed. In the right lateral sinus was a recent thrombus, and in the straight sinus was a white, slightly adherent clot. A small abscess cavity was present in the left occipital lobe, and a large abscess in the right occipital lobe containing thick yellow pus, and communicating with the lateral sinus on that side. Both

middle ears contained pus. In the lungs there was acute purulent bronchitis, and the left lower lobe was solid with bronchopneumonia, while the right showed a large area of collapse.

In this case there was evidently a chronic otitis, which had been stimulated into activity as a result of the bronchopneumonia, and had caused a septic infection of the brain and cerebral sinuses.

Although various pneumococcal infections are liable to follow a recent attack of pneumonia, it does not always happen that there is a history of a previous inflammation of the lung. The different serous membranes are at times attacked, apparently primarily. Thus, in another of my cases pneumococcal meningitis associated with cerebral abscesses occurred in an apparently healthy child.

CASE VI.—*Pneumococcal Meningitis: Cerebral Abscesses: Death.*

Cyril E., aged 4 years, was suddenly taken ill with vomiting one night. This was followed by a fit in which all his limbs twitched. He became feverish and lost his appetite, and on the third day was brought to hospital. He had previously had chicken-pox, measles, whooping-cough, and scarlet fever, but had experienced no bad after-effects from any of them. There was, however, a history of an alleged fall on the head about a week before admission. He had an apathetic, vacant look, and was drowsy, resenting any interference. The eyes tended to deviate to the right, and the right arm and leg seemed weak. There were no abnormal signs in the chest or abdomen. The knee-jerks were absent and both plantar reflexes were of the extensor type. Sensation seemed unaffected and there were no changes in the optic discs. The temperature was slightly raised, the pulse-rate 110 and the respirations 40. On the sixth day of his illness he had twitchings on the right side, and was subsequently sick. On the eighth day another fit occurred, but this time on the left side, the face being also affected, and the eyes turned to the left. The fit was easily checked by chloroform, but paresis of the left arm and leg resulted. On the following day the right arm was found to be paralysed. This subsequently recovered to a certain extent, but the vomiting became more frequent. Lumbar puncture, however, failed to yield any cerebro-spinal fluid. The temperature kept for the most part between 99° and 100° until the fourth week, when it suddenly began to rise, with the development of an attack of scarlet fever, the origin of which was obscure; possibly it had been conveyed by the patient's friends. The child was sent to a fever hospital and returned in about a month. He was then pale and drowsy with sunken eyes, and showed paralysis of the left arm and leg. The temperature was normal and the pulse rather slow. He was frequently sick, and the left eye became prominent. Ten days after readmission the temperature began to rise again irregularly to 100.6°. A diagnosis of cerebral abscess being made, Mr. Scott trephined the patient, but failed to discover any pus. The child gradually sank and died a little over two months after being first taken ill. At the *post-mortem* examination the cerebral convolutions were flattened and the base of the brain was covered with greenish pus. In the left temporo-sphenoidal and left frontal lobes were abscesses each of the size of a large walnut. Pus was present in the lateral ventricles especially on the left side, where the anterior cornu was considerably dilated. The ears were normal, and no changes of importance were found in any of the viscera. Cultivations from the pus grew the pneumococcus in pure culture.

Again, a pneumococcal infection of a joint is occasionally met with. The following case, which was recently under the care of my colleague, Mr. Mollison, affords another instance of a serous membrane being primarily affected.

CASE VII.—*Pneumococcal Arthritis: Operation: Recovery.*

Elsie L., aged 1 year and 3 months, was admitted with a six weeks' history of swelling of the right knee, which gradually became painful. The child was said to have been unwell six or eight weeks previously, but there was no history pointing to pneumonia. The joint was swollen, and was at once explored, some turbid synovial fluid being withdrawn, which on cultivation yielded a growth of pneumococcus. The joint was opened, and turbid fluid containing flakes of lymph was evacuated. The temperature was normal on admission, and only slightly raised for a couple of days after the operation. The child made a good recovery.

The origin of infection in such cases where there is no antecedent pneumonia is obscure. The organism must either be in the system and be stimulated into activity by some debilitating disease or injury, or the weakening effects of some illness may predispose the patient to an invasion by the pneumococcus. An instance of a general invasion by this organism as the result of severe illness is the following. The case is remarkable in that there were three distinct morbid processes going on at the same time, which consequently rendered a diagnosis extremely difficult.

CASE VIII.—*Pericarditis: Acute Rheumatism: Tubercle of the Lung: Pneumococcal Septicaemia: Death.*

George N., aged 4½ years, was under the care of Dr. Fenwick. The patient had had measles about a year before. He was first taken ill with "pains in the stomach" nine days previous to admission, and had been under a doctor with a constant temperature since. The boy seemed in pain, and screamed when touched. The area of cardiac dullness extended from the nipple line on the left to ½ in. beyond the sternum on the right. The heart sounds were normal, but well-marked pericardial friction was audible all over the precordium. The percussion note over the base of the left lung was impaired, and the breathing at the left apex was deficient. The abdomen was rigid and painful in the median line, but nothing abnormal could be felt. The temperature was 103.8°, pulse 112, respirations 64. The temperature continued hectic for the first three days, and then fell somewhat, though keeping irregular between 96° and 100.5°. The friction became less marked during this time, and finally disappeared on the ninth day after admission. The patient increased slightly in weight and showed some improvement, but a fortnight later the left knee became swollen and painful, and there was some effusion into the joint without any additional rise of temperature. The joint subsided under the administration of aspirin, but a week later the right knee was similarly affected, the temperature two days previously having risen temporarily to 103.6°. Sodium salicylate brought about an improvement, but at the end of another week the pain recurred and the ankles and wrists were affected, all the joints being swollen. The heart's apex was now ½ in. outside the left nipple line. The salicylate was increased and the true salt substituted with good effect; the temperature gradually fell, and kept chiefly subnormal for about two weeks. It then began to shoot up again, chiefly in the mornings, and the pain returned in several of the joints. The spleen became enlarged and a transient bright red rash appeared chiefly on the limbs. The temperature again subsided, though it was not quite steady, but in another week again began to show exacerbations to over 104° in the early morning, one of which was accompanied by a rigor. These rises continued for nearly a month with the exception of two periods of three or four days each when the temperature was almost normal. The erythematous rash again appeared, but faded after three days, and the spleen increased in size. Ophthalmoscopic examination showed nothing abnormal, and a blood count showed no leucocytosis, the white corpuscles numbering 9,600 per c.mm., while the red were 4,720,000 and the haemoglobin 65 per cent. A differential count of the leucocytes showed that the various forms were present in the normal proportions. On three different occasions cultivations were made from the blood, but no growth was obtained except on one when a sarcina appeared, which was probably due to a contamination from the skin. Between the rises of temperature the patient seemed quite well, and it is noticeable that his body-weight remained steady though it did not increase. With the fever he complained of headache especially in the occipital region. Two further rigors then accompanied rises of temperature, and the patient was not so well. He was rather cyanosed, and was delirious at times, and began to retch and vomit. The knees and elbows again became painful. The temperature became more uniformly raised, and as the signs in the left lung still continued the pleura was explored, but without result. The temperature again fell, but another rigor soon occurred. The feet and hands became swollen and the boy was a good deal troubled with cough. He was sick at times and gradually went downhill, the temperature being continuously very irregular at the last. He finally died, three and a half months after his admission. At the *post-mortem* examination the superficial vessels of the brain were found congested, but there was no meningitis. The pericardium was firmly adherent; the heart and valves were normal. Both pleurae showed recent adhesions. Throughout the left lung were small areas of caseation and larger areas of consolidation; the right was congested, but otherwise normal. The liver was congested and slightly fatty; the spleen was large and soft and the kidneys were cloudy. The pneumococcus was found in the blood within the heart, and a rabbit injected with the serum died suddenly in a couple of days with abundant evidence of pneumococcal infection.

The simultaneous occurrence of rheumatism, tuberculosis, and pneumococcal infection is unusual. The tubercle was probably of some little standing, and the debilitating influence of this and the superadded rheumatism rendered the child susceptible to a virulent invasion by the pneumococcus.

I now turn to some abdominal complications of pneumonia. A rare complication is acute nephritis. Albuminuria is, of course, common enough during the febrile stage, but evidence of an actual parenchymatous nephritis is sufficiently uncommon to justify my detailing this case:

CASE IX.—*Lobar Pneumonia: Acute Nephritis: Recovery.*

Matilda O., aged 4 years, a fat, healthy-looking child, had had a severe "cold" for a fortnight, but suddenly began to get worse three days before admission. She had been delirious, had complained of general and abdominal pain, and had vomited. When seen, she was drowsy and very tremulous; she complained of headache, and there was some retraction. Distant tubular breathing was heard at the right base. The

abdomen was very tender, but the tenderness could not be localized, and nothing abnormal could be felt. The temperature varied between 99.5° and 104.6°, and after three days considerable dilatation of the heart was noticed. The urine was tested on admission, and on subsequent occasions, but no albumen was found. On the tenth day, however, blood was found to be present, and the spleen at the same time could be easily felt. The blood continued to be present, and the albumen increased to 2¾ per cent. (Esbach), while granular casts were found on microscopical examination. The temperature was irregular up to 102° for another ten days, when it sank to normal, and the renal and pulmonary signs, the latter of which showed considerable delay in clearing up, subsided at the same time. The patient made a good recovery.

Pneumococcal peritonitis is a severe, and often a fatal, condition. It may occur as a complication of pneumonia, or it may have a primary origin, and perhaps be followed by pneumonia, as happened in the second of the two cases which I shall now quote. In the majority of cases occurring in childhood this condition is a primary one, and is generally of the encysted form—that is, the purulent exudate is localized, and is usually found in the lower part of the abdomen. A secondary peritonitis, on the other hand, is, as a rule, diffuse, and is less common. The first of the two peritonitis cases which I have to bring to your notice illustrates the involvement of the pericardium and plurae, in addition to the peritoneum, secondarily to an attack of pneumonia.

CASE X.—*Double Lobar Pneumonia: Double Empyema: Pyopericarditis: Peritonitis: Death.*[1]

Ethel W., aged 4½ years, came of a family in which there was a history of tubercle and chest troubles. She had had pneumonia following measles two years previously. About five weeks before admission to hospital she passed through an attack of pneumonia, which involved both lungs, the crisis occurring on the fifth day. The signs in the lungs, however, did not clear up, dullness persisting at both bases and moist sounds being audible on both sides of the chest. Towards the end of the second week it was noticed that her abdomen began to swell, and it gradually became larger. The breathing became more embarrassed and the child lost flesh. On admission the temperature was 100.2°, it having been previous to this practically normal after the initial fever, and the pulse was 140. The heart's apex beat could be neither seen nor felt, but the sounds were best heard over the fourth costal cartilage. There was dullness over both lower lobes of the lungs with greatly diminished breath sounds and absence of vocal fremitus. The abdomen was much distended and afforded ample evidence of fluid. Paracentesis of both sides of the chest was performed, pus being withdrawn from the left, but not from the right. On the operating table a little more pus was withdrawn from the left pleura by means of a needle, but on resecting part of a rib no further collection could be found. The patient was very collapsed afterwards, and the cyanosis increased. On the assumption that the respiratory difficulty might have been caused by the pressure of the fluid within the abdomen, the peritoneum was tapped some twenty-four hours later and 13 oz. of pus were removed. The breathing improved, and the abdomen was opened in the middle line below the umbilicus, when 3 to 4 pints of thick yellowish-green pus were evacuated, drainage tubes being inserted into each loin. The child, however, never rallied, and death occurred suddenly two days later. The temperature, except on admission, never rose above 99.6°. At the *post-mortem* examination there was no meningitis. The pericardium was distended by 16 oz. of thick greenish pus. There was generalized pleurisy over both lungs and a small empyema on either side posteriorly. The lungs were oedematous, and the left lower lobe was very congested, but no signs of consolidation remained. The peritoneum was uniformly covered by a thick layer of lymph, which had caused numerous adhesions, shutting off here and there small isolated collections of pus. The lymphatic glands were not enlarged. Cultures of the pus from the pleurae, pericardium, and peritoneum yielded pure cultures of pneumococcus.

The case seems to have been one of primary pneumonia with secondary infection of the other serous membranes. There was no evidence, however, to show that the peritoneum had become infected by direct extension from the pleurae. The diaphragm did not show any signs of disease, and the pelvic peritoneum was more extensively involved than the upper. On the other hand, there was no evidence that the peritonitis was due to an infection from the alimentary tract or from the pelvic organs, which were normal. The pyopericarditis was entirely undiagnosed. The other case is an example of a primary infection of the peritoneum:

CASE XI.—*Pneumococcic Peritonitis: Secondary Pneumonia: Death.*[2]

Edith H., aged 5 years, when 15 months of age had an attack of "inflammation of the bowels." Since then she had been healthy, but for the past few months had had occasional abdominal pain, worse at times after food. There had been no vomiting, and the bowels were regular. Five days before admission she woke with severe pain in the abdomen, and vomited, the temperature being 103°. The pain continued, and diarrhoea persisted after a dose of castor oil, but the vomiting ceased. The abdomen became distended and somewhat rigid, especially in the lower part, and the temperature continued high. When seen the patient's aspect suggested pneumonia rather than peritonitis, the face being flushed and the respirations quickened. The abdomen was distended and only slightly tender; it was resonant, and afforded no evidence of free fluid. There were signs of consolidation over the lower lobe of the left lung, and some crepitations and coarse râles at the right base. A blood count showed a leucocytosis of 15,000. Laparotomy was deferred, as the case did not seem to be one of septic peritonitis, and the presence of pneumonia suggested that it was a pneumococcal infection. The dullness on the right side of the chest became more marked and more extensive, so that fluid was suspected. Exploration, however, was negative. The abdomen continued distended, and some diarrhoea with very offensive stools followed. Antipneumonic serum was given on two occasions without any noticeable benefit. The temperature then fell, and the lungs showed signs of resolving, the abdomen at the same time becoming much less distended and the diarrhoea ceasing. Some induration was felt in the hypogastrium, but operation was further deferred in order that the child might be in a better condition as the lungs improved. A sudden change, however, occurred. The temperature rose and the abdomen rapidly became enormously distended, with signs of intestinal perforation. Laparotomy was immediately performed in the middle line of the hypogastrium, when free gas and 8 oz. to 10 oz. of thick greenish fluid containing flakes of lymph were evacuated. The intestines were extensively matted together, so that it was impossible to find a perforation. Many incisions for the purpose of irrigation and drainage were consequently made, but the child, as was only to be expected, died three days later from septic intoxication. At the necropsy general adhesive peritonitis and small collections of very inspissated green pus were found. Between the liver and the diaphragm was a large abscess entirely shut off from the general peritoneal cavity. No perforation could be found. Both lungs showed areas of collapse and slight pneumonic consolidation. Films from the pus within the abdomen showed the presence of the pneumococcus.

In this case the abdominal infection seemed to be primary, the pulmonary signs not appearing until the third day. As no perforation could be discovered, it is possible that gas-forming organisms gained access to the peritoneal cavity through a damaged intestinal wall.

The cases related cover a wide area, and serve as illustrations of the difficulties at times attending the diagnosis of pneumonia and its complications in childhood, as well as reminders of the extensive ravages which the pneumococcus may bring about.

REFERENCES.
[1] Clogg, *British Journal of Children's Diseases*, 1907, vol. iv, p. 491.
[2] Clogg, ibid., 1908, vol. v, p. 285.

HOSPITAL INFECTION OF TUBERCULOSIS

AS EXEMPLIFIED BY THE RECORDS OF THE RESIDENT STAFF OF THE MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST FOR THE PAST FIFTEEN YEARS *

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A RECENT contribution [1] on the infection of consumption by Dr. Theodore Williams raises again the question of hospital infection, and refers to the original figures from the Brompton Hospital on this subject which have been so widely quoted as evidence of the comparative immunity from tuberculous infection of the resident medical and nursing staffs of special chest hospitals.

These figures, and others which have been brought forward, appear, however, to be compiled from the results of inquiries into the health of the former residents and nurses rather than from any actual medical examination of the individuals concerned, and are thus inconclusive. In one case—that of Victoria Park, given by Dr. Andrew in his Lumleian Lectures [2]—the information appears to have been simply obtained from the secretary of the hospital.

As a further contribution to this question, I propose to give some figures from the Mount Vernon Hospital which have at least the advantage of being compiled from actual examination of the individuals. As Dr. Williams's latest article gives particulars of the resident medical officers, I have added to my statistics particulars of the resident

* A paper read before the Medical Section of the Royal Society of Medicine, April 26th, 1910.

TABLE I.

Hospital.	Resident Medical Officers.		Dispensers.		Nursing Staff.		Female Servants.		Porters.	
	Total.	Became Phthisical.	Total.	Became Phthisical.	Total.	Became Phthisical.	Total.	Became Phthisical.	Total.	Became Phthisical.
Brompton, 1846–1867	154	8*	22	4	?	4*	?	1	20	0
,, 1867–1882					107	1	32	0		
,, 1882–1909, including Frimley	201	5†	23	0	—	—	—	—	137	7‡
Victoria Park (Dr. Andrew, 1884) ...	12	1	7	1	259§	1	—	—	34	1
Ventnor (quoted by Dr. Bulstrode, 1906)	—	—	—	—	208	6	407	2	—	—
Crooksbury Sanatorium (quoted by Dr. Bulstrode, 1906)	5¶	0	—	—	26¶	0	76	1	—	—
Totals	372	14	52	5	600 +?	12	515 +?	4	191	8

* Only one resident medical officer and one nurse contracted phthisis whilst at Brompton.
† One contracted phthisis from a *post-mortem* wound. The remaining four became consumptive after leaving Brompton.
‡ Five of these porters had to deal with the patient's clothing and bedding; another one was a pathological assistant, who became consumptive after an accidental wound.
§ Nurses and female servants are here included together. Thirty-three, in addition to the one referred to as phthisical, left because of illness, and of these "some, but certainly not all, were phthisical"
Three of these nurses appear to have had tuberculosis before going to Ventnor.
¶ One resident medical officer and four nurses had been phthisical before they came to Crooksbury.

medical officers, obtained, like those of Dr. Williams, by inquiry only. It will, I think, be seen that the risk of infection in hospital is not entirely a negligible quantity, though the risk is a small one and affects the nurses and servants of the institution rather than the members of the resident medical staff.

The figures I am able to give cannot be taken to show every case of possible infection from hospital work, since they only refer to evidences of infection which were apparent up to the time when the individual left the hospital; it is, of course, possible that other cases may have developed tuberculosis after leaving.

The original report of the Brompton Hospital staff was presented to the British Medical Association by Dr. Theodore Williams at the annual meeting in 1882.[3] As it covered a period of thirty-six years the number of individuals who had been in residence must have been considerable, though it was perhaps impossible to give the actual numbers.

The accompanying table (Table I) will show the nature of the material at present available for judging of the risk of hospital infection in this country.

These figures furnish some curious results, for we find that the dispensers, who come least in contact with the patients, show the highest proportion of consumptives (9.61 per cent.), whilst the nurses and female servants, who are most continuously in the wards, furnish the smallest proportion of consumptives (0.98 per cent.). This does not include those who were in residence at Brompton before 1867, for the numbers are not given in the report.

The resident medical officers (3.76 per cent.) and porters (4.18 per cent.) come between the dispensers and the female staff with a somewhat close approximation in the proportion of consumptives.

The Brompton report of 1882 has been very widely quoted as evidence that infection does not occur in properly conducted hospitals for consumptives.* It may be that other hospitals have felt some diffidence in publishing any cases of apparent infection of members of the staff which might lay the institution open to the presumption of insufficient attention to precautionary details.†

The report does not, it is true, show complete immunity from tuberculosis amongst those who had been in residence, though only one resident medical officer out of 150 is said to have contracted the disease whilst in residence, and only one individual (or perhaps two) out of the many nurses and maidservants who resided in the institution during the thirty-six years with which the report deals. Nevertheless, it shows a surprisingly small incidence amongst those who have worked in the hospital as compared with the known prevalence of the disease amongst young adults in the general population of this country.

Dr. Williams, in his most recent report, seems to recognize a possibility of infection in general hospitals, since he states that, though amongst the house-physicians none was affected during residence at Brompton, two subsequently died of acute phthisis when holding resident appointments in hospitals where cases of advanced consumption are admitted.

It is, I think, certain that residence in a well-regulated hospital or sanatorium for consumptives involves no great risk of infection; on the other hand, there are certain duties incidental to the care of consumptives which involve some risk, and therefore necessitate special precautions—such duties, for example, as cleansing sputum cups and flasks, handling soiled handkerchiefs, clothing, or bedding, and the performance of autopsies. Risks of direct infection from patients coughing—droplet or spray infection from sputum—or from general air infection from dried sputum should be practically non-existent in the wards of a well-ordered hospital.

Such as they are, the risks will therefore not be common to all the residents in the institution, but will vary with the special duties of the different members of the staff.

The visiting physicians may be left out of consideration; they are not living amongst the consumptives, and there should be little or no risk in examining the patients.

The out-patient physicians probably run some risk, since they examine a large number of patients at each visit, most of whom have not been instructed in the precautions necessary to minimize any possible danger to others.

The resident medical officers are in less close and less constant relation to the patients than the nurses, and their risk, if we exclude the performance of autopsies, and possibly some danger in laryngoscopic examinations, is also slight.

The nurses are the most exposed to infection, and if there is any risk we should expect to find evidence of it in the incidence of consumption amongst the nursing staff. It is to be regretted that in his most recent communication in reference to the Brompton Hospital staff, Dr. Williams has left the nurses out of consideration. Wardmaids, scrubbers, laundrymaids, and porters have special risks from dried sputum which make precaution in their work necessary; these individuals also do not readily appreciate the need for attention to detail, and soon neglect precautions if supervision is relaxed. We might expect that a certain percentage of residents, nurses, and servants would become consumptive, without therefore concluding that they became infected

* Thus, in the first book which I took at random from my shelves in which reference is made to the matter, I read: "Although Brompton Hospital, London, has treated more than 15,000 cases of tuberculosis during the past twenty years, yet neither a nurse, a physician, nor an attendant has become infected."—*The Diagnosis and Treatment of Pulmonary Tuberculosis*. By F. M. Pollinger. Baillière, Tindall and Cox 1908.

† Dr F. R. Walters says: "No instance of infection has ever been reported from any modern chest hospital with even elementary precautions about the expectoration."—*The Sanatorium Treatment of Pulmonary Tuberculosis*, p. 34. 1909.

whilst engaged in the institution, and in consequence of their work there.

In order to assess the special risk attending work in a hospital for consumptives, we must endeavour to show that the incidence of the disease is proportionately greater amongst those engaged in such institutions than it is amongst those fulfilling similar duties in other hospitals, or else be able to trace the source of infection in individual cases, and show at least a probability of a definite relation between their special work and the contracting of the disease. The first condition—that is, the statistical comparison between the staffs of general hospitals and those of the special hospitals in relation to the incidence of consumption—is hardly possible; not only are the data difficult to obtain, but a very large proportion of the medical and nursing staffs of the special hospitals have been previously engaged in general hospitals, or pass on to the latter. A comparison might easily be made between the incidence of consumption amongst those who have been engaged in the special hospitals and amongst the general adult population, but this would be of little value unless the comparison were restricted to individuals of similar social grade and comparable kinds of employment. Even in respect of cases of consumption occurring in individuals engaged in special hospitals, whose duties expose them to definite risks, it is necessary to show that they were free from disease when they commenced their duties before we can reasonably infer that they became infected through their work. The statistics from Mount Vernon have a certain value from this point of view, since in the case of the nurses and servants every individual was thoroughly examined on entry, and, in the great majority of those who were accepted, again on leaving. It is the rule at the Mount Vernon Hospital that every member of the nursing staff, every maidservant, and every man or boy employed in or about the hospital (engineers, porters, etc.), shall be examined before being definitely engaged, and again on leaving. The chest is carefully examined, under the same conditions as obtain in the examination of the patients, by one of the visiting physicians detailed for this duty. This has been my duty for the past fifteen years, and from the records which have been kept the following notes and statistics have been compiled. As I also see all members of the staff who are reported to be out of health, there should be little chance of their developing consumption without it being detected. Nurses naturally shrink from a thorough examination of the chest by residents with whom they are daily in communication; thus, if they find themselves failing in health, and suspect that their lungs may have become affected, they may keep the matter to themselves, and leave the hospital rather than report sick. Compulsory examination on entry by one of the visiting staff, besides ensuring the physical fitness of new members of the resident staff, paves the way for similar examination by the physician on the lightest hint of danger. I have several times been asked to examine nurses or servants merely because they or their friends had got a little nervous about possible infection. The origin of this practice at Mount Vernon is not without significance. A nurse (L. E. D.) came to the hospital from a provincial consumption hospital, and it was noticed that she had a hacking cough. She was persuaded to have her chest examined, and I found active mischief in the lungs, from which she died some six months later. According to her own account she had been off duty for an attack of acute bronchitis, and before she had completely recovered she was put on special duty to look after an advanced case until his death. It seems probable that, being in a condition of special susceptibility on account of her illness, she became infected from this patient. To avoid a similar occurrence in the future I suggested the systematic examination of all nurses and servants on entering on their duties and on leaving, which has now been carried out for over fifteen years. The numbers of which I have kept records comprise: From the Hampstead Hospital, 167 sisters and nurses, 92 maidservants, and 6 men and boys; and for the Northwood Hospital, 68 sisters and nurses, 73 maidservants, and 14 men and boys—a total of 420 persons. A certain proportion of these were rejected on the medical examination, others did not remain more than a few weeks, and some left without notice or were dismissed summarily for breaches of discipline or misconduct, so that the numbers examined on leaving will be considerably fewer than those mentioned above. It will be seen that evidences of past or present tuberculosis of the lungs were detected by medical examination in a not inconsiderable proportion of the applicants for posts as nurses or maidservants, the condition being frequently unsuspected by the individual herself.

In addition to the above, there have been 33 resident medical officers, 3 dispensers, and a porter and caretaker at the out-patient department, about whom particulars are available.

We may divide the inquiry into three parts:

The proportion of those desiring to enter the service of the hospital who have, or have previously had, some tuberculous manifestations.
The evidence pointing to tuberculous infection whilst in residence in the hospital and the extent of the risk.
The evidence of subsequent development of tuberculosis after leaving the hospital.

I.—*Evidence of Previous Tuberculosis in Applicants for Appointments.*

For the purposes of this inquiry we may take all the applicants who were examined on entry as to their physical fitness. Some of these were rejected at once as unfit for the duties required of them, others were allowed to remain though not physically sound, and were kept under observation. These were informed of the condition of the lungs, and were told that they would probably improve under the hygienic conditions observed in the hospital, and given the option of remaining. Most of them improved very considerably, and remained well; one or two did not improve, and left after a few months. It is noteworthy that of those who were found to have signs of tuberculosis, a large proportion were quite unaware of any such mischief, even when the signs showed active lesions. Others were aware that they had tuberculosis—quiescent or arrested—although they generally withheld the information on this point until it had been detected on examination.

The returns for Hampstead extend over fifteen years, those for Northwood only cover a period of five years.

The individuals examined on entry are comprised in the following table:

	Hampstead.	Northwood.	Total.
Matrons, sisters, and nurses ...	167	68	235
Female servants	92	73	165
Men and boys	6	14	20
Total individuals	265	155	420

Amongst these there was evidence on entry of previous infection with tubercle as follows:

	Hampstead.	Northwood.	Total.
In nursing staff	25	7	32
In female servants	6	7	13
In men and boys	0	0	0
Total individuals	31	14	45

This gives a proportion of nearly 14 per cent. of the nurses and 8 per cent. of the maids who had been infected with tuberculosis before they applied for duty at Mount Vernon. There were in addition a few nurses and maids whose lung signs were not entirely satisfactory, and suggested a possible slight attack of tuberculosis; but as the evidence in this direction was by no means conclusive, I have not included them in these returns. Of the 45 individuals who gave evidence of previous infection, 8 nurses and 1 maid had scars in the neck from old strumous glands, and 1 maid had an enlarged cervical gland which appeared to be actively tuberculous; 3 nurses and 4 maids had signs of old pleurisy, and of these, 2 nurses and 1 maid gave a history of repeated attacks—three in each case. Of the remaining 28 individuals, the majority had signs

pointing to arrested or healed mischief in the apex of the lungs, whilst in 10 the signs pointed to still active tuberculosis in the lungs. One nurse had signs in the lungs as well as a scar in the neck.

Of those who, as the result of examination, were considered to have had tuberculous infection of the lungs, some were unaware of anything having been wrong; even those with active mischief—as, for example, the case (Miriam T.) detailed below—seemed to have no suspicion that their lungs were affected. Two or three were known to have been in hospital with pulmonary tuberculosis at some previous date, and some others as the result of inquiries eventually confessed to having been under treatment for consumption.

Some of the nurses and servants included in the above returns as previously infected were rejected as unfit, two were admitted as in-patients instead of being accepted for duty. Only one nurse (L. E. D. referred to previously) is known to have died of the disease, though one maid is still in the hospital as a patient.

Most of those who were taken on duty improved considerably during their residence. Four developed active mischief later, while doing duty in the hospital. It will be noted that 13·6 per cent. of the applicants for appointment on the nursing staff presented evidence of tuberculosis, recent or remote, whilst of the servants applying only 7.8 per cent. showed signs of previous infection. This marked difference demands investigation, especially as tuberculosis is essentially a disease of the poor, and would be more prevalent in the class to which the servants belong than in that from which the majority of the nurses are drawn. Age might possibly have some influence, for some of the maids were younger than any of the nurses, and had not reached the age at which pulmonary tuberculosis is most common. The difference might be to some extent explicable on the supposition that the affected nurses might have selected such a hospital because the conditions of life were specially favourable to their condition, whereas the maids, coming from a more ignorant and prejudiced class, would avoid a consumption hospital if they had any suspicion that their lungs were not sound. In a few of the cases the nurses acknowledged that they had applied for posts at Mount Vernon because they thought it would be a good place for them as they had had their lungs affected, and it is generally known that a certain proportion of both medical officers and nurses in the various sanatoriums for consumptives have previously been patients at similar institutions. It is, however, impossible to overlook the possibility that previous occupation may afford the explanation of the greater proportion of nurses, as compared with servants, who have become affected with tuberculosis. Leaving out the cases of pleurisy and of strumous glands, we have 10 per cent. of the nurses and only 4 per cent. of the servants giving evidence of tuberculous infection. It seems possible that the nurses having been engaged in attending the sick and residing in hospital—at least during their training—may have become infected from their patients or have had their resisting power lessened by the effects of hospital work and residence. Many of the "nurses" were, however, probationers with no experience of nursing and no previous hospital residence, and, on the other hand, some of the maids had been employed in hospitals.

Of the tuberculous individuals, 17 (16 nurses and 1 maid) had had previous hospital residence, being nearly 37 per cent. of all who showed evidence of tuberculous infection. Of the tuberculous nurses alone, 48.5 per cent. had been in hospital.

The probable influence of hospital residence may be seen by the following comparison:

A.—Proportion of those who had previously resided in hospital who showed signs of tuberculosis (excluding cases of strumous glands):

Nurses ...	...	16 out of 70 =	22.75 per cent.
Maids ...	...	1 out of 17 =	5.28 ,,
Both ...	...	17 out of 87 =	19.54 ,,

B.—Proportion of those who had never been in residence in hospital who showed signs of tuberculosis (excluding glands):

Nurses ...	...	17 out of 166 =	10.24 per cent.
Maids ...	...	12 out of 147 =	8.16 ,,
Both ...	...	29 out of 313 =	9.26 ,,

Whether the influence of hospital residence, as shown above, was in the way of direct infection from tuberculous patients, or was due to the effect on the general health rendering the individual more susceptible to infection from any source, or in causing a latent tuberculosis (due to infection before entering the hospital) to become active, it is, of course, impossible to determine. In any case it seems that the influence of general hospital residence cannot be altogether disregarded, since the proportion of tuberculous cases in those who had previously resided in hospital was twice as great as that amongst those who had never worked in hospital.

II.—*The Evidence Pointing to Tuberculous Infection whilst in Residence at Mount Vernon Hospital.*

The nursing staff of a hospital would seem to be most exposed to any risk there might be of direct infection through the air (by droplet infection, or from the general infection of the air of the wards from dried sputum) since their duties bring them into close personal relation with the patients for many hours a day. They probably have also to collect the soiled handkerchiefs, the used sputum cups and flasks, and to make the beds of the more advanced or febrile patients. Their risk would probably equal that of the near relatives and household of a consumptive patient who is confined to the house, except that the regulations of a well disciplined institution ensure attention to prophylactic detail, which may be neglected in the average household. The maids are not so continuously in the wards or so closely in attendance on the patients, and their risk should be much less, but they might be expected to be less careful in carrying out precautionary regulations. Some of the men have special risks in connexion with the destruction of sputa, the disinfection of clothing and bedding, or in the *post-mortem* room.

If we were to rely upon the account which could be obtained from the individuals themselves we should only have to report a single nurse at Hampstead as having become consumptive whilst in residence, and possibly two at Northwood, who developed tuberculosis—one in the hand and the other in the foot—though these latter may not have been aware of the nature of the mischief. If, however, we look at the results of examination, as shown in Table II (p. 1043), we see reason to doubt whether such a report would furnish a complete record of those who developed tuberculosis during their residence. Several of those recorded in this table had no definite symptoms of ill health, and the majority had no suspicion that they had become infected with tuberculosis.

It will be seen on reference to the table that, excluding doubtful cases,* 14 members of the nursing staff, 5 maid-servants, and 2 men developed tuberculosis during their residence in the hospital. Of those, 5 nurses, 3 maids, and 1 man had been found on entry to have signs indicating previous infection. These cannot, therefore, be properly included in estimating the proportion of residents who may have become infected in the hospital. One of the maids who developed tuberculosis, and who ultimately died of the disease, contracted the infection apart from her duties (see case R. H. detailed below).

In calculating the percentage of cases of possible infection, only those members of the staff who remained in residence for three months or longer are included in the total of the residents, except in two cases who developed tuberculosis within three months of commencing their duties.

In making a critical examination of the cases referred to above as having developed tuberculosis during residence, we find that of the Hampstead staff 5 of the nurses may be considered to have developed tuberculosis in the lungs without any reasonable doubt, and of these 2 were recognized as tuberculous on entry. In 3 others the signs suggested pulmonary infection, but were not absolutely conclusive. In the remaining case (W. J.) if the swelling on the ankle was due to tuberculosis it must be considered rather as the development of a latent infection than as an infection occurring whilst in residence, the activity being possibly due to a lowering of the resisting power by hospital work and residence—the influence of the hospital

*Most of the cases which I have called doubtful, both in the list of those who showed evidence of tuberculosis on entering the service of the hospital, and in that of the individuals who developed tuberculosis whilst in residence, had more definite physical signs of changes in the lungs—catarrh, consolidation, or induration—than many patients who are admitted into the wards as cases of pulmonary tuberculosis and sometimes proved to be tuberculous. These "doubtful" cases have not been included as tuberculous in any of the calculations of percentages.

TABLE II.—*Table of Cases Developing Signs of Tuberculosis (Definite or Suspicious) during Residence in Mount Vernon Hospital, 1894 to 1909 inclusive.*

No.	Occupation.	Initial.	Age.	Date of Entry.	When Signs were Noted.	Condition Noted on Examination.	Remarks.
	Hampstead.						
1	Probationer nurse.	E. R.	17	April, 1895	Aug., 1897	Pleurisy left base	Developed cough six months later.
2	Nurse	M. T.	27	?	Sept., 1894	Creaking râles left back	Signs disappeared in about a month; doubtful.
3	Probationer nurse.	G. A.	19	Oct., 1899	Sept., 1900	Deficient resonance and interrupted breath sounds at right apex; had lost weight two or three months	Right apex showed quiescent mischief on entry.
4	Nurse	M. M.	25	Feb., 1900	Nov., 1900	Harsh bronchial breathing and crepitations right apex; few crepitations left apex	Now well. (See report below.)
5	Probationer nurse.	E. S.	19	Feb., 1903	April, 1905	Deficient resonance; high pitched breath sounds; prolonged expiration right apex; harsh breathing left apex; temperature, 100.2	Left apex showed quiescent mischief on entry; had had pleurisy.
6	Sister	J. G.	31	Aug., 1904	July, 1905	Inconstant crepitations right lower lobe; much thinner	Left the hospital; believed to be well; doubtful.
7	Probationer nurse.	E. H.	23	March, 1905	Dec., 1905	Fine crepitations right front	Left the hospital; doubtful.
8	Probationer nurse.	E. D.	18	Feb., 1906	Oct., 1906	Bronchitic râles more marked on left; pleural friction left side	Seemed well on leaving the hospital, but her health broke down six months later.
9	Nurse	W. J.	20	May, 1906	Nov., 1906	Swelling of left ankle; no redness	Very bad family history of tuberculosis; ankle got quite well; doubtful.
10	Nurse	E. T.	23	April, 1907	Jan., 1908	Harsh breathing with prolonged expiration right apex	Possibly physiological; doubtful.
11	Wardmaid	R. H.	21	Oct., 1902	April, 1905	Cough a.m.; creaking râles left supraspinous fossa; moist crepitations right apex; tubercle bacilli in sputum	Died 1908. (See report.)
12	Between maid ...	C. B.	14	Oct., 1902	April, 1905	Few crepitations right apex	Probably temporary catarrh; doubtful
13	Wardmaid	J. M.	21	May, 1905	Aug., 1905	Crepitations below right clavicle and in right supraspinous fossa; disappear on coughing	A delicate girl.
14	Between maid ...	S. A. B.	17	Sept., 1903	July, 1904	Deficient resonance right apex; few post-tussive crepitations supra-scapular region; deficient resonance left apex; moist crepitations after cough; tubercle bacilli in sputum	Admitted to wards.
15	Maid	E. D.	18	Nov., 1893	Feb., 1895	Harsh breath sounds and fine crepitations left apex; temperature 99 to 100.2 p.m.	Father phthisical; remained till 1897 and kept well.
16	Maid	B. C.	18	?	Feb., 1896	Deficient resonance both apices; creaking râles right supraspinous fossa; swollen cervical glands left side	Father died of phthisis; the lung signs were due to old tuberculosis before entry.
	Northwood.						
17	Nurse	E. H.	32	Nov., 1905	Jan., 1906	Occasional crepitations below both clavicles	October, 1907; creaking râles both apices, constant on right; had tuberculous cervical glands, aged 15.
18	Probationer nurse.	J. W.	26	Dec., 1907	March, 1908	Tuberculous finger from splinter	(See report); still on duty in the hospital.
19	Probationer nurse.	W. E.	21	March, 1905	Oct., 1906	Tuberculous metatarsal joint	(See report.)
20	Probationer nurse.	J. D.	19	May, 1907	Jan., 1908	Acute tonsillitis; pleurisy left side	Probably rheumatic; complete recovery; left April, 1908.
21	Nurse	G. M.	25	Jan., 1905	Jan., 1906	Deficient resonance left apex; crepitations in both supraspinous fossae	Had pleurisy and pneumonia two years before entry.
22	Housemaid	L. M.	16	Nov., 1908	Jan., 1909	Tenderness and swelling in palm of hand	(See report.) Lungs showed old mischief on entry.
23	Housemaid	R. S.	16	Aug., 1906	May, 1907	Deficient resonance, prolonged expiration, and some crepitations above left clavicle	Left August, 1908; still keeps well; doubtful.
	Men.						
24	O.P. porter and caretaker (Fitzroy Square)	H. J.	40	Oct., 1906	Nov., 1907	Old mischief both apices; active on left lung	Died in the hospital; was invalided from army for haemoptysis.
25	Engineer (Hampstead)	W. C.	29	Aug., 1906	May, 1908	Fine crepitations at left apex. Tubercle bacilli in sputum	Still on duty; now well. (See report.)
26	Page (Hampstead)	E. M.	18	Oct., 1903	Oct., 1909	Catarrhal condition right apex	Still on duty; doubtful.

residence is in this case, at the most, indirect. There are thus only three cases of probable infection amongst the nurses during the past fifteen years which may be attributed to their work and residence at Hampstead.

Of the Northwood staff, two nurses developed signs in the lungs which pointed to tuberculous infection. One of these had suffered from strumous glands at the age of 15, and it is therefore conceivable that she had latent tuberculosis on entry; if so, the period of latency extended over seventeen years. The case of pleurisy cannot, in my opinion, be considered as an instance of tuberculous infection except on the supposition that all pleurisies are tuberculous. The pleurisy was preceded by an attack of tonsillitis which suggests a possible rheumatic origin. The case of tuberculosis of the finger is interesting, as it seems almost certainly to have been the result of local infection from a splinter of wood from the ward table which she ran into the finger. The case of tuberculosis of the metatarsal joint is less clear, as it is difficult to see how infection occurred, unless it were through the finger which she crushed in the door some weeks previously. (See Case W. E. detailed below.)

Excluding those who were rejected as unfit on the admission examination, or for other reasons did not remain over three months, we have 155 nurses and 62 maids at Hampstead and 60 nurses and 52 maids at Northwood.*

We have, then, the following proportion of cases of probable infection:

	Total.	Developed Tuberculosis.	Excluding Previous Tuberculosis.
HAMPSTEAD—			
Nurses	155	5, or 3.22 per cent.	3, or 1.93 per cent.
Maids	62	4, or 6.42 ,,	2, or 3.22 ,,
Both	217	9, or 4.14 ,,	5, or 2.30 ,,
NORTHWOOD—			
Nurses	60	4, or 6.6 per cent.	2, or 3.3 per cent.
Maids	52	1, or 1.92 ,,	1, or 1.92 ,,
Both	112	5, or 4.46 ,,	3, or 2.67 ,,
BOTH INSTITUTIONS TOGETHER—			
Nurses	215	9, or 4.18 per cent.	5, or 2.32 per cent.
Maids	114	5, or 4.38 ,,	3, or 2.63 ,,
Both	329	14, or 4.25 ,,	8, or 2.43 ,,

* The comparatively large number of maids at Northwood is due to the fact that the laundry for both hospitals is at the Northwood branch.

Taking Table I for comparison, it will be seen that, excluding the Brompton returns before 1867, where the total number of nurses and servants is not given, we have:

Nurses 600, of whom 8 became consumptive—1.3 per cent.
Maids 515, ,, 3 ,, ,, 0.58 ,,

It will, I think, be evident that the return of those who became infected with tuberculosis is obviously incomplete, as might be expected if the figures are obtained by inquiry only.

It may be well to point out here that the hospital at Hampstead is an older building than that at Northwood, and that all kinds of chest cases, including some quite advanced cases of consumption, are admitted to the wards, whilst the much newer hospital at Northwood is for early cases of pulmonary tuberculosis, and may be described as a model of the palatial type of sanatorium for consumptives.

Of the maids at Hampstead, 6 developed signs in the lungs suggesting tuberculous infection. In two of these the disease became acute, and one of them (R. H.) died. In the fatal case it will be noted (see case below) that there is sufficiently clear evidence that infection was contracted outside the hospital. In one other case the lungs showed signs of old mischief on entry. Two of the other three cases are open to doubt, and I have failed to trace the girls since they left the hospital. At Northwood two maids appear to have become infected. One of these—L. M., recorded below—is interesting as a case of probable local infection through a cut. She had signs on entry of previous infection of the lung. The other case gave doubtful signs in one lung. She remained at her work, and though she has now left the hospital I have ascertained that she keeps quite well.

Of the men, only two have showed any signs of mischief in the lungs. One of these was a caretaker at the offices in Fitzroy Square and out-patient porter there. He developed active tuberculosis, and ultimately died in the hospital; he had been invalided out of the army for haemoptysis. The other case was the engineer at Hampstead, whose duties included the destruction by burning of the contents of the sputum cups and flasks. He was never obliged to go off duty, though he remained under my care for six months. He is now perfectly well, and is still on duty at the hospital. It may be mentioned that all the men employed in the hospital are periodically examined every three months.

It is hardly possible to form any definite conclusion as to the influence, if any, of hereditary predisposition, since the numbers of those individuals in whom reliable information on this point is available is too small to be of any value. So far, however, as the figures give any indication, it would appear that the evidence points to the conclusion that it is undesirable that those who have a family history of tuberculosis should take work as nurses or maids in a special hospital for consumption. Of the Northwood staff, in whom the family history has been recorded, it appears that out of 71 nurses and 80 maids*—a total of 151—of whom 22 gave a history of tuberculosis in the family, 9 nurses and 8 maids showed signs of previous tuberculosis on entry, and 3 others developed tuberculosis in residence. Thus we have 20 cases of tuberculosis in 151 individuals, or 13.24 per cent. Of these 20 cases of tuberculosis, 5 gave a history of tuberculosis in the family (25 per cent.), and 15 had no family history of tuberculosis (75 per cent.). Putting the figures in another way, we have 129 women with no family history of tuberculosis, and of these, 15 developed tuberculosis before or during residence—a proportion of 11.6 per cent. Of 22 women with a tuberculous family history, 5, or 22.7 per cent., developed tuberculosis. Thus the incidence of tuberculosis was considerably greater amongst those who belonged to tuberculous families. The numbers are, however, too small to be of any value.

The information as to family predisposition is less complete in the case of the Hampstead staff.

The average stay in the hospital is about the same for both nurses and servants, namely, about eighteen months; this is, of course, excluding those who did not stay as much as three months. Individual nurses and maids remained in the hospital several years, one as much as ten years and several for five years and over. It should be mentioned that a large proportion of the nurses are probationers who only come for one year, passing the remaining two years of their training in a general hospital.

* Including some nurses and maids who were transferred to Hampstead, and are counted in the Hampstead figures in the other statistics in this paper.

III.—*Development of Tuberculosis since Leaving the Hospital.*

I have not made any systematic attempt to estimate the proportionate number of nurses and maids who have developed tuberculosis since they left the Mount Vernon Hospital. In the first place, it has been found almost impossible to get into communication with a large proportion of the former nurses and maids, the maids especially being most difficult to trace after a few years. In the second place, such information as can be obtained is not altogether reliable, and cannot be corroborated by personal examination. I have obtained information regarding a considerable number of past nurses, and amongst those there has not been a single case of tuberculosis reported.

I have been the less persistent in seeking information since I have preferred to restrict this report as far as possible to facts ascertained by personal physical examination.

Resident Medical Officers.

Although I have at different times examined several of the resident medical officers at their request, there has not been the same systematic examination of these residents as of the nursing staff and servants. Nevertheless, since the other reports which I have quoted for comparison give particulars of the resident medical officers, I give similar particulars.

Out of 33 past residents to whom I have written, 27 have replied, 1 is known to be dead. Of the 27 from whom I have recently had communications, all but 4 are able to state that they have never suffered from tuberculosis either before, during, or since their residence at Hampstead or Northwood. They generally agree that their residence did them good rather than harm, and several of them speak of putting on considerable weight whilst in the hospital.

Of the 4 exceptions, 2 had suffered from pulmonary tuberculosis before they came into residence, the disease having been arrested. Both of these remain well and at work.

One other pricked his finger at a *post-mortem* examination, which led to a local infection of the hand. After about two years the hand became quite well. He is now, some twenty years later, still in good health. The remaining one developed several so-called tuberculous warts on the hands during residence nearly twenty years ago. Most of them have been cut out, and all are perfectly well; his general health has remained good. He writes that he quite recently reacted strongly to Calmette's test, but is in perfect health.

The dispensers, the secretarial staff, and the visiting medical and surgical staff furnish no cases of tuberculosis.

It would appear from the experience of the Mount Vernon staff that the risk of infection with tuberculosis in a special chest hospital is very small, and is apparently little, if at all, greater than in a general hospital. It is, perhaps, doubtful if there is any greater risk to the workers in any well ordered hospital than amongst the general mass of town dwellers of similar social position. Infection with tuberculosis does occasionally occur as a result of the duties of a nurse, but probably not more frequently amongst the nurses in a hospital for consumptives than amongst the general body of nurses. Every occupation has its special risks, and the possibility of infection is one which members of the medical and nursing profession accept as a matter of course. The risk of tuberculous infection, even in a hospital for consumptives, appears to constitute a very slight danger.

ILLUSTRATIVE CASES.

Unsuspected Tuberculosis of Lung Detected by Examination on Entry.

Miriam T., aged 21. Was examined on entry as wardmaid in November, 1908. She had been wardmaid at the Great Yarmouth Hospital. She was found to have active and advanced tuberculosis at the apex of the left lung entirely unsuspected. She was admitted to the wards as a patient.

There was impaired resonance with prolonged expiration at the right apex. Diminished resonance, prolonged expiration, and moist crepitations over the greater part of the upper lobe and at the apex of the lower lobe on the left side. Tubercle bacilli were found in the sputum. She remained in the hospital (Hampstead and Northwood) until October, 1909, when she left much improved. She has not been at work since, but wrote at Christmas that she felt well and was anxious to get a situation as soon as possible.

Apparent Infection during Residence in Hospital.

Probationer Nurse Marie M., aged 25. Examined on entry, February, 1900, and found healthy. In November, 1900, she was reported to me, having got thinner and lost weight. She was easily tired, slept badly, and suffered from headaches.

I found the breath sounds harsh at the right apex, where there were some inconstant crepitant râles. A week later crepitations were detected at both apices, and she was put off duty. A month later the signs were more definite, especially at the right apex. She remained under my care for about five years before I could certify that the mischief was completely arrested. During this time she spent three and six months respectively at sanatoriums, the second occasion being in consequence of activity in the left lung, the right being quiescent.

For the last three years—July, 1902, to July, 1905—she was on night duty at the hospital. During the whole period she never had any expectoration. She has, since leaving the hospital, held posts at private sanatoriums, and remains well, reporting herself to me for examination at intervals when in London.

Nurse M. was engaged for some months before her breakdown in charge of the out-patient waiting room, and it seems possible that she became infected from the out-patients, who are not sufficiently careful in the matter of expectoration until they have been instructed in the necessary precautions. The out-patient department at Hampstead has since been closed.

Rose H., aged 21. Wardmaid. Entered the hospital in October, 1902, and was then quite healthy. In April, 1905, she was "run down," had some morning cough, and on examination was found to have harsh breathing and some moist crepitations in the apex of the right lung. Examination of the sputum showed the presence of tubercle bacilli.

She was taken off duty and put under treatment. She remained under treatment at Hampstead and Northwood until her death in 1908. It was found that this girl had become engaged to a patient who had tuberculous laryngitis, and who, when he left the hospital, took rooms at Hampstead. There were thus many opportunities of direct infection.

Jessie W., aged 26. Probationer nurse. Entered December, 1907. Healthy. In February, 1908, she ran a splinter into the left first finger whilst rubbing a ward table. A week later the finger was swollen and brawny, and Mr. Berry laid the track of the splinter open in the Royal Free Hospital, where the condition was pronounced to be tuberculous.

In October, 1908, the finger was practically well, but the nurse was very anaemic and not very strong. After a short time she improved considerably, and is now still on duty in the hospital.

Winifred E., aged 21. Probationer nurse. Entered March, 1905. She was anaemic, the weight was subnormal; she had a somewhat flattened chest but the lungs were healthy.

In the summer of 1906 she crushed one of her fingers in a door, and shortly after the finger showed signs of local suppuration. She went for a holiday to Switzerland, and soon after her return she was found to have lost 3lb. in weight since her holiday; she was anaemic but there were no abnormal physical signs in the chest. In October, two months later, she complained of pain in the foot when walking. Mr. Berry examined the foot, which was slightly discoloured and swollen on the dorsum, and diagnosed tuberculosis of the metatarsal joint. She left the hospital a month later, and is now—October, 1909—perfectly healthy and well.

Lily M., aged 16. Housemaid. On entry in November, 1908, she was noted as tall and slight, with slight lateral curvature of the spine. The chest was healthy, except for a few creaking sounds on the left front. In January, 1909, she cut her hand with a knife. A few days later she broke some crockery, and thinks she got something into the wound of the previous cut. A week later there was swelling in the palm of the hand, which was tender on deep pressure. She was admitted into the Royal Free Hospital under Mr. Berry.

William C., aged 29. Engineer. Entered 1906. Was quite well until May, 1908, when he complained of pains in the chest and general weakness. On examination the only abnormal signs heard in the chest were a few rhonchi scattered throughout the lungs. He quickly improved, and felt well again, but about a month later he felt pain in the sternum and commenced to cough. No history of chest disease in the family. There was prolonged expiration at the right apex with a few crepitant râles. Rhonchi all over the back. At the left apex crepitations were heard both back and front. Tubercle bacilli were found in the sputa. A week later he had some pleurisy (dry) at the right base, and the physical signs at the right apex were more marked. By October 1st the chest was practically clear again, and he has since remained perfectly well. He is still on duty at the hospital.

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A Lecture
ON
MENINGITIS IN CHILDREN.

DELIVERED AT THE LONDON SCHOOL OF CLINICAL MEDICINE.

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THERE are three varieties of meningitis to which children are specially liable—tuberculous; posterior-basic; and suppurative. Other forms of meningeal inflammation also occur, but, in comparison with these three, they are rare. It is still doubtful whether posterior-basic and cerebro-spinal meningitis should be differentiated from one another. The diplococcus which is found in the two disorders is apparently the same, the one being, in all probability, an attenuated variety of the other. The symptoms mainly differ in being comparatively mild in posterior-basic cases and in occurring principally in infants under one year of age; whereas in cerebro-spinal cases the manifestations are more acute, children are liable to its influence at all ages, it often occurs in epidemic form, and it is commonly associated with purpuric or other skin rashes.

TUBERCULOUS MENINGITIS.

Tuberculous meningitis in most instances depends upon an extension from an old-standing focus, frequently in the bronchial or mesenteric glands, but sometimes from a tuberculous process in the middle ear. Though it may occur at any age, the large proportion of cases develop between the second and fifth years of life. Where there is no obvious pre-existing tuberculous disease elsewhere, the onset is often so insidious that a definite diagnosis within the first week or two may be impossible. During this time there may be nothing more remarkable about the child than an unwonted peevishness and irritability, with restlessness at night and capriciousness as to food. He may, even thus early, complain from time to time of headache, or may inarticulately manifest discomfort by uneasy movements of his head. He desires to be left alone, and refuses to be amused in the usual way. His bowels become confined, and every now and again, for no apparent reason, he vomits without retching or effort, and independently of a previous meal. The restlessness at night is soon accompanied by startings in which the child wakes himself screaming, and by grinding of the teeth; while during the day he begins to manifest an unnatural drowsiness, and to assume a decubitus which is suggestive; he lies on his side with his hips and knees flexed, his arms close to his sides and acutely bent at the elbows, and his fingers, in a semi-unconscious way, constantly picking his nose or lips. He becomes increasingly irritable, and resents any form of movement. His headache is now more constant, and seems to be paroxysmally increased by light, noise, or any form of disturbance. Under the influence of such an exacerbation of pain he often clasps his head with both hands, and emits a short, sharp scream, which is described as the hydrocephalic cry. He wanders a little at night, and the pyrexia, which was at first insignificant and intermittent, is now continuous and generally higher in the evening than the morning. The pulse, which was at the beginning somewhat accelerated, becomes irregular, of full tension, and sometimes remarkably slow. The tongue is furred, the breath offensive, the urine thick and concentrated, and the bowels still obstinately constipated. The pupils are usually contracted, and slight ptosis of one eyelid or some degree of strabismus may develop. The muscles at the back of the neck stiffen, but there is very rarely any marked retraction of the head such as occurs in posterior-basic cases. Tremors of the head and limbs on movement are often noticeable. The abdomen may assume the hollowed-out appearance known as the "boat-shaped belly," and the *tâche cérébrale* can readily be elicited on scratching the skin.

Gradually the irritative symptoms characteristic of the invasion period of the disease subside. The child is now completely apathetic; he no longer complains of headache

or resists actively the attentions of his nurse; the respiratoin becomes sighing, the pyrexia lessens, and the retraction of the abdomen increases. The pupils, instead of being contracted, are dilated and often unequal, and a moderate degree of optic neuritis is not uncommon. He rolls his head uneasily from side to side, often waves his arms about, and his face is subject to sudden flushes, which by-and-by become permanent. The physiognomy of this stage is thus graphically described by Trousseau:

He groans from time to time, opens his eyes wide, which shine as they do in persons who are drunk. His face, which is usually extremely pale, flushes for a second or two, then he closes his eyes again, and resumes his former aspect. Generally, as he thus opens his eyes, and as his face colours up, the child utters a plaintive cry, which is perfectly characteristic.

The stupor deepens and eventually terminates in coma, from which there is no rousing. Both pulse and respiration increase in rapidity; the former is irregular as well as rapid, and the latter is apt to assume the Cheyne-Stokes type of rhythm. Muco-pus accumulates on the corneae and a typhoid state supervenes, in which there is a low muttering delirium, floccitatio, subsultus tendinum, and paralysis of the sphincters. The child now almost invariably assumes a dorsal decubitus, with his limbs extended and all his muscles flaccid. The temperature shoots up again and may reach 106° or 107°, the pulse becomes small and uncountable, the surface of the body cold and cyanotic, and not infrequently death is ushered in by one or more convulsions. It ought to be remembered that it is not unusual, even in an advanced stage of such an illness, for a delusive and temporary improvement to take place. The little patient may suddenly become more active mentally, and in other respects revive so remarkably as even to raise hopes of his recovery; but they are always doomed to disappointment, the apparent betterness being little more than the last flicker of the burned-out candle, which very soon becomes permanently extinguished.

Reckoning from the date of distinct establishment of the disease to the day of death, Gee estimated the usual duration of life at twenty-three days. This is approximately true in the majority of cases, but some die earlier, and many last much longer. Cases of recovery are so rare that many observers believe the disease to be invariably fatal, but Howship Dickinson, who gave the subject special attention, was of opinion that about 2 per cent. of all cases recover.

POSTERIOR-BASIC MENINGITIS.

This is the most common variety of non-tuberculous meningitis in children, and occurs, in the large majority of cases, within the first year of life. But though posterior-basic cases are the most frequent, a vertical type of non-tuberculous meningitis, which will be described under the suppurative variety of the disorder, is also met with in which the inflammation mainly affects the convexity of the brain. In cases of the posterior-basic type, the onset is characterized by headache, irritability, restlessness, and vomiting. The headache is intense and constant, but is subject to acute paroxysms which often elicit piercing cries. Screaming is, in some cases, almost continuous, and always increased in violence if the child is in any way disturbed. In infants, fullness of the unclosed fontanelle within the first few days of illness is fairly common. Retraction of the head is always a prominent and early symptom, and is due to tonic contraction of the posterior cervical muscles. This contraction sometimes extends to the muscles of the back, causing opisthotonos, or to the limbs, which may be either firmly flexed or extended. This tendency to muscular spasm is responsible for Kernig's sign, which is now recognized as such a valuable help to the diagnosis of all forms of meningeal affection. The sign consists in a difficulty or impossibility, when sitting up, to keep the leg and thigh in a straight line. If the patient is placed on his back in bed, the leg can be relaxed and fully extended at the knee, but whenever he is raised to the sitting posture, or the leg is flexed at the hip, so as to bring it at a right angle to the trunk, flexion takes place at the knee and cannot be overcome without the use of considerable force and without causing the patient to cry out. The temperature is more disturbed in vertical than in basic cases, but it is always irregular and is liable to become hyperpyretic before death. The respiration is rapid, often accompanied by deep sighing, and eventually becomes rhythmically irregular, if not actually Cheyne-Stokes in character. The pulse is irregular and may be abnormally slow. The abdomen may retain its normal rotundity, but in many cases becomes retracted. *Tâche cérébrale* is, as a rule, well marked, while flushing and other evidences of vaso-motor disturbance, though not so frequent as in tuberculous cases, are sometimes very pronounced. Emaciation is always a striking feature. The pupils are usually contracted and equal; strabismus is not unusual, and the eyes may remain imperfectly closed from retraction of the upper lid. Optic neuritis is rare, but, on the other hand, nystagmus is common. Champing or sucking movements of the lips, grinding of the teeth, and paroxysmal yawning are often prominent symptoms. The bowels are, in most instances, constipated—though never so persistently as in tuberculous cases—and the evacuations are dark and offensive. Exceptionally, diarrhoea occurs as a troublesome complication. As a rule, there is no eruption on the skin, but in a few cases a temporary erythema is noted. Convulsions may occur at any period of the illness, and are usually bilateral. The knee-jerks are always present and are often exaggerated. Various forms of paralyses may occur, their distribution being regulated by the situation and extent of the inflammation. Hemiplegia or monoplegia are, for obvious reasons, more frequent in vertical than in basic cases. The early restlessness and delirium are gradually replaced by stupor and coma; contraction of the pupils gives way to dilatation; and the sphincters become incompetent. Ultimately extreme prostration is revealed by livid and shrunken features; a rapid, thready, and irregular pulse; shallow breathing; cold, clammy perspirations; and not infrequently oedema of the lungs as a prelude to death. The vertical form of simple meningitis is mostly an acute process, but the basic variety is more chronic, and may last over several weeks. Recovery is not common, and when it occurs is often incomplete. Hydrocephalus is apt to be induced by adhesions closing up the foramina between the cerebral cavities and the subarachnoid space, and this may be responsible for mental and moral defects which remain as a permanent legacy from the illness. Though epidemic cerebro-spinal meningitis has much in common with simple meningitis, its detailed description does not come within the compass of to-day's consideration.

It happens, fortuitously, that I am able to show a case illustrative of this basic variety of meningitis. This child is 3 months old, and was admitted to the hospital, as an emergency, about a fortnight ago. A week before admission the child was unusually fretful, and the head gradually became retracted to the position in which you now see it, while at the same time the infant became first apathetic, then drowsy, and, finally, comatose. The family history is unimportant. The decubitus is such as I have tried to describe; the pupils are equal, and there is no squint; Kernig's sign is well marked; the anterior fontanelle is distinctly bulging; the knee-jerks are active, and the plantar response is extensor on both sides. The bowels are constipated, and there has been repeated vomiting. The abdomen is flat if not actually retracted. The *tâche cérébrale* is easily demonstrated. The temperature has been erratic, but not seriously disturbed; the respirations are rapid and irregular, and the pulse is also small, feeble, and quick. Lumbar puncture has yielded a turbid fluid, which has been found to contain a large number of polymorphonuclear leucocytes, and also diplococci in small but definite numbers. These have been cultivated, and prove to be the true meningococcus.

SUPPURATIVE MENINGITIS.

Suppurative meningitis may follow injuries to the head or be caused by extension of inflammation from neighbouring parts—the middle ear, the mastoid cells, the nasal cavities, etc. It occurs also as a complication in such acute general diseases as pyaemia, scarlet fever, small-pox, and sometimes pneumonia. The symptoms bear a general resemblance to those met with in tuberculous meningitis, but they are usually much more rapid in their development. When meningitis of this type supervenes upon acute disease elsewhere, the symptoms are often masked so completely by those of the primary affection that death may occur without a suspicion being aroused of meningeal implication. In cases secondary to chronic inflammatory lesions like otitis media the symptoms may set in acutely with rigor, headache, and vomiting. The child shuns light and noise, and lies curled up in bed, as

in the tuberculous variety. The neck muscles are stiff, and the head may be retracted, but never to such an extreme degree as is met with in posterior-basic cases. Convulsions often occur, early as well as late, and are associated with delirium and drowsiness. Various forms of paralysis corresponding to the situation of the inflammation are apt to declare themselves, and owing to the fact that the vertex is most frequently the seat of disturbance, the cranial nerves are more likely to escape, while those originating in the motor area of the brain are more liable to be involved. An arm, or leg, or the face alone, may be paralysed, or there may be complete hemiplegia or paraplegia. The pupils are contracted in the early, and dilated in the later, stages of the illness, and optic neuritis is of common occurrence. The temperature is high from the beginning; respiration is sighing and irregular; Kernig's sign is well marked; and, in many cases, the abdomen is retracted and hollow. The drowsiness deepens rapidly into coma, and within two or three days of the first development of symptoms the circulation fails and death ensues.

DIAGNOSIS.

The differential diagnosis of these three varieties of meningitis is not difficult, and rests mainly on the following points. In tuberculous cases the combination in the early stages of the disease of headache, vomiting, and constipation should always arouse suspicion. These symptoms may, it is true, be produced by such innocent causes as dentition, gastro-intestinal catarrh, or an ordinary bilious attack, or they may be due to the onset of one or other of the specific fevers, but it is always possible, with patience and time, to eliminate, one after another, these hypothetical explanations of the initial manifestations. Fullness and pulsation of the anterior fontanelle, though not conclusive, adds considerable strength to the initial suspicion. The optic discs should always be inspected, because, though pronounced changes in them are generally found only in the later stages of the disorder when the diagnosis is already assured, there are instances in which it occurs early, and throws a flood of light on the true nature of the other symptoms. As the illness develops the persistence of headache in the presence of delirium, the decubitus of the child, the avoidance of light, the resistance to movement or disturbance of any kind, the presence of Kernig's sign, the development of the characteristic hydrocephalic cry, the retraction of the abdomen, the character of the pulse, the occurrence of ocular palsies, and the tendency to a gradually deepening stupor, constitute the facts upon which it is possible to establish a firm diagnosis. The use of tuberculin, either by the application of Calmette's ophthalmic reaction or of von Pirquet's skin reaction, is valuable as an aid to early recognition of the true nature of the condition.

Posterior basic meningitis repeats many of the characteristics of the tuberculous variety, but it occurs as a rule at an earlier age, and is of more sudden onset. There is no prodromal period of malaise, and from almost the earliest beginning of the illness retraction of the head, together with flexor or extensor spasm of the limbs, is a marked and characteristic feature. The temperature is usually higher, and in some instances the occurrence of a blotchy erythema helps to clear up diagnostic difficulties. Progressive enlargement of the head in infants is distinctive of hydrocephalus, and occurs in basic cases from occlusion of the drainage channels of the cerebral ventricles.

Suppurative meningitis is a more acute process than either of the others. An unexpected convulsion in the course of an infective disease or of some localized inflammation in one of the cranial cavities is sometimes the first indication of meningeal complication. The supervention of headache, increased pyrexia, delirium, hemiplegia or monoplegia, muscular rigidity, Kernig's sign, optic neuritis, recurrent convulsions, and coma, all within three or four days, completes a clinical picture which is unmistakable.

In all cases of meningitis, lumbar puncture gives us information which may be valuable. It is only useful when taken in conjunction with the clinical symptoms, but it often serves to clinch a doubtful diagnosis as between one variety of meningitis and another. The needle may be most conveniently introduced into the spinal canal between the laminae of the third and fourth lumbar vertebrae. If it is found that the tension of the cerebro-spinal fluid is increased, the inference is that there is probably some organic disease of the brain. An excess of cells points to inflammatory mischief, and a predominance of cells of the polymorphonuclear variety is indicative of an acute inflammatory process. Bacteriological examination will serve to determine the particular micro-organism upon which the inflammation depends.

The prognosis is grave in all three forms of meningitis; most so in the suppurative variety, slightly less in tuberculous cases, and least of all in those which belong to the posterior-basic type.

TREATMENT.

Time will not permit of any detailed reference to pathology or treatment, but in regard to the latter I wish to mention two posterior-basic cases which have recently been under my care at the Waterloo Hospital, and which have achieved a remarkable recovery. I am aware that in a certain proportion of this class of case recovery takes place under the usual methods of general treatment. I further admit that no reliable conclusions can be deduced from the experience of two fortunate results, but in both these children the illness seemed so desperate and the response to ordinary treatment by drugs and other general methods so disappointing that the improvement under the influence of injections of antimeningococcal serum may be worthy of consideration as a suggestion for the management of similar cases.

The history of these two children, who are here to-day for your inspection, and who are now both perfectly well, is, very shortly, as follows:

Elsie Ward was 5 months old when she was admitted to Waterloo Hospital in June last. She came with a history of vomiting of seven days' duration and the most striking objective feature about the child, on her admission, was extreme retraction of the head. Her pulse numbered 120, the temperature registered 102°, and her respirations were 35. She was abnormally drowsy; Kernig's sign was well-marked, and she had a double internal strabismus. Lumbar puncture was performed on the evening of the day of her admission and the fluid withdrawn was turbid and was found to contain large numbers of polymorphonuclear cells. These cells were crammed with diplococci, as many as fifteen being counted in one cell. The following morning the temperature was 104.5°, but after tepid sponging it fell to 102°; 25 c.cm. of antimeningococcal serum were administered hypodermically. A week later the general condition was distinctly improved. The temperature had fallen, the vomiting was occasional only, and the head retraction was diminished. Another lumbar puncture was done and the diplococci, though still present, were found to be much less numerous. Another injection of 25 c.cm. antimeningococcal serum was administered, and the improvement was maintained for the following five days. Vomiting, pyrexia, and drowsiness then recurred, and were so pronounced that for a fortnight the child was kept going by nutrient enemata and saline injections. A haemorrhagic rash also now appeared on the abdomen. A third injection of antimeningococcal serum was given, and from this time improvement was uninterrupted until the patient was discharged, apparently cured, at the end of July. I now show you the child, who is the picture of health and has been perfectly well since she left the hospital, and I ask you to confirm the foregoing history by hearing from the mother her account of the child's condition when she brought her to Waterloo Hospital at the end of June.

The other child, George Glass, is 5 years of age, and was admitted to the hospital on November 11th, 1909. A few days before admission his mother observed that he was unusually drowsy, and that at times he seemed to become unconscious. He had vomited on several occasions, his bowels were obstinately confined, he screamed loudly when interfered with, and refused all kinds of food. On admission he was apathetic and irritable, was able to answer questions, but took no intelligent notice of his surroundings, and when put to bed assumed a curled-up position on his right side. His head was retracted acutely; Kernig's sign was present; and he had distinct nystagmus. His abdomen was slightly concave, and, though there was no paralysis, the arms—and especially the left one—were notably tremulous on movement. The knee-jerks were active, the left more so than the right. The abdominal and thoracic organs were healthy. The temperature was 102° F., pulse 116, and respirations 35. For four days he was treated with febrifuges, purgatives, ice to the scalp, etc., in the usual way, but the temperature remained high, the screaming attacks continued, the head retraction increased, and altogether the child was obviously getting worse rather than better. Lumbar puncture was now resorted to, and the spinal fluid, which was turbid on withdrawal, was found to contain on centrifugalization a large number of cells, of which 98 per cent. were calculated to be of the polymorphonuclear variety. A small but definite number of diplococci were present within the

polymorphonuclear cells. No tubercle bacilli were to be found. On November 20th, there being still no improvement, 10 c.cm. antimeningococcal serum were injected hypodermically, the dose being repeated on November 23rd, 26th, and 27th, and on December 1st respectively. No definite improvement was apparent until after the last injection, when the temperature began to fall rapidly, consciousness returned, and all the serious symptoms abated. This satisfactory condition of things continued for five days, and then a relapse occurred, lasting for a further period of five days, during which the old symptoms were revived, though less acutely, with the temperature again shooting up to 103° F. It was then decided to inject 10 c.cm. antimeningococcal serum into the spinal canal, but an unexpected amelioration in the child's condition prevented this intention being carried into effect. From this time on recovery was uninterrupted, and here you see the boy apparently as well and healthy as he ever was. On January 5th another lumbar puncture for confirmatory purposes was done. The spinal fluid was then found to issue under a much diminished pressure; when centrifugalized the deposit contained a few blood discs but no excess of leucocytes and no micro-organisms, and media inoculated with the deposit revealed no growth of the *Diplococcus intracellularis*.

I show you here the small flasks of antimeningococcal serum as they are sent out from the laboratory ready for use. Each flask contains 10 c.cm. We propose to inoculate the child we have examined this afternoon, in the first place hypodermically, and later on, if need be, by the intraspinal method.

It may be mentioned that in cases of tuberculous meningitis the fluid withdrawn by lumbar puncture, though turbid, is often sterile, but on centrifugalization tubercle bacilli can generally be demonstrated in the residue. The prevailing lymphocytes are of the small mononuclear type.

In suppurative cases the polymorphonuclear cells are in abundance, and the finding of the streptococcus, staphylococcus, pneumococcus, or other micro-organism in the centrifugalized residue affords confirmatory evidence of the type of meningitis which is under observation.

AN IMMUNIZING SUBINFECTION IN SCARLATINA.*

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The continued investigation of scarlatina has given us proof abundant that the predominant factor in the spread of the infection is direct contact with persons suffering from the fever. It is true that some outbreaks of the disease are traceable to infection-bearing milk, and also that a certain number of cases may be due to infection from clothing—things as distinct from persons; but the predominant factor is usually recognized to be personal contact.

The more extensive supervision of contact cases and the routine examination of school classes in which scarlet fever has occurred have strengthened this belief, for they have resulted in the wider discovery in the affected classes of children who were passing through attacks of scarlatina so mild that they had been missed alike by parents and teachers, but who were acting as a continued source of infection to others.

Missed Cases.

These cases are "missed" because the parent or teacher did not see the rash on the child; the sore throat was so slight that the child was well in a day or so, and no medical man was called in; or a medical man may have been called in, and either because the rash was very faint or absent, or because the rash had faded, a correct diagnosis was not made. The attack is a mild one; the child returns to school, and, especially if there is any ear or nose discharge, acts as a means of spreading infection; in about ten days the child is found to be peeling. I would emphasize the importance in class outbreaks of a full inquiry and examination of all children who have been absent from school on account of sore throat. Whether or not peeling is a source of infection is doubtful, the evidence is apparently in the negative; but it at least gives information as to the source of infection in a fresh case which may have puzzled the investigator.

Mention has been made of the evanescent rash with very slight symptoms, and of scarlatina *sine eruptione*. The existence of the latter has been regarded as doubtful, its reputed occurrence having been ascribed to the fact that the rash, being slight and evanescent, had been missed.

The Lower Grades of Infection.

But because scarlet fever infection varies so greatly in its characteristics as to produce all grades of rash, from the brilliant and vivid eruptions, haemorrhagic and accompanied by miliary vesicles, to a slight erythema of low punctiform character which is hardly visible, it is not illogical to expect that the rash-producing properties of the infection may be traced to vanishing point.

In examining large numbers of children who were school class contacts of true cases of scarlet fever, I have found on not a few occasions that some of these children had no sign or symptom of scarlet fever except a condition of the tongue in which the papillae are well marked, with possibly a slight injection of the throat. In some of these children the surface of the tongue was furred, giving the "white strawberry" appearance; in others the "red strawberry" appearance was present. It has been my custom in dealing with school classes affected by scarlet fever to exclude any child who had a sore throat or any skin condition which might indicate the early stage of a scarlet fever rash, as well as any child who had ear or nose discharge. The children who showed this tongue condition were not excluded; they were watched, and in no case was I able to detect any other sign or symptom which would verify the diagnosis of an attack of scarlet fever. In tracing other cases of scarlet fever which subsequently occurred in such a class, I found that occasionally the tongue cases were possible, but rarely probable, sources of the infection of the fresh case.

The Scarlatina Tongue.

The strawberry tongue of scarlet fever is due to the following sequence of events: First, a thick white fur accumulates on the tongue, due to an excessive proliferation of epithelium; then this fur begins to exfoliate, the fungiform papillae showing through as prominent congested points, giving the appearance of the white strawberry tongue. By the fourth day the fur has exfoliated, the papillae are very prominent and congested, and the appearance of the red strawberry tongue so typical of scarlet fever is produced. The white strawberry tongue is by no means diagnostic of scarlet fever. It occurs also in conditions such as measles and diphtheria; but the red strawberry tongue is said to be pathognomonic.

An Immunizing Subinfection.

Many of the contact-children to whom I have referred had the red strawberry tongue, but showed no other sign of scarlet fever at the time; and in none of the cases which were kept under observation was there any subsequent sign to verify the diagnosis of scarlet fever in any of its stages. But all these children had been in contact with scarlet fever cases; and of the other children in the class who had also been in contact with these cases, but who did not show this tongue sign, some developed scarlet fever. It is not unreasonable, therefore, to suppose that these children who had the tongue sign may have had scarlet fever in so low a degree of infection that whilst it was too attenuated to produce any visible effect upon the more opaque and resistant epithelium of the skin, it was concentrated enough to produce an effect on the more delicate epithelium of the tongue; and, further, that the attenuated infection by which they had been attacked had immunized them against the more marked disease.

Another fact which appears to indicate the frequent existence of a scarlatinal infection of very low virulence is the occurrence in every outbreak of scarlet fever of sore throats among contacts who do not actually develop scarlet fever. The prevalence of these sore throats is, I believe, greater at the beginning of an outbreak of scarlet fever. My records are not complete enough for proof, but it is recognized that the autumnal outbreaks of sore throat are coincident with the onset, but not markedly continuous with the progress, of the autumnal rise in scarlatinal infection. This would support the belief that a high percentage of persons in contact with scarlet fever are infected, but many have so slight an infection that it causes no sign but sore throat and may immunize the individual from the greater infection. The infection of

* Read to the Bournemouth Medical Society.

persons, therefore, during the prevalence of scarlet fever may be classed as follows: (1) The well developed cases of scarlet fever; (2) the cases which are mild, but whose infection has resulted in sore throat and a slight, evanescent rash with subsequent peeling; (3) the cases in which there is a still milder grade of infection, not sufficiently concentrated to produce a skin rash, but which produces a sore throat and may produce "exfoliation" of the tongue. I have mentioned that in none of these latter cases which I have followed up has true scarlet fever developed, but the record of a very much larger number of cases is necessary to prove the hypothesis.

Tentatively, therefore, I hold it true that Class III, composed of persons exposed to scarlatina who have developed nothing but a sore throat and an unrecognizable degree of scarlatina, have received an immunizing subinfection which has protected them from the full attack. This subinfection has produced a response in the form of increased resistance, the host becomes better armed with antibodies, and a "positive phase" is produced in the same way as it is produced in vaccine therapy.

The possibility of this increased immunity being produced is strengthened by the fact that in persons exposed to infection, but who do not contract the disease, a definite leucocytosis may be demonstrated.

The Russian Vaccines.

In 1906 Gabritchewsky of Moscow introduced a vaccine made from the *Streptococcus scarlatinae*, which he used with a view to protecting children from attacks of scarlatina. As a result of the injection he obtained in a certain number of cases an erythema resembling that of scarlatina. Zlatogoroff and Langowoy in Moscow obtained similar results, there being in some cases a slight rise of temperature and pharyngeal injection. These results are not conclusive, but at least they are in favour of the specific nature of the *Streptococcus scarlatinae*. The further research going on at the present time should give us more definite knowledge concerning the elusive streptococcus, but, in view of our present lack of knowledge concerning the causative micro-organism, it becomes necessary to seek an analogy in the case of specific bacilli concerning which we know a little.

An Argument from Analogy.

No practical work on the typhoid bacillus can be complete which does not take into consideration the group of closely related micro-organisms including the *B. coli* and the bacillus of Gaertner. There is evidence of a series of bacilli of gradually decreasing virulence, some of which can be surely recognized by definite culture reaction, and there is moreover a slight variation in the type of disease produced which has resulted in the description not only of typhoid fever, but also of paratyphoid fever. Again, a clear analogy is afforded by the variation of the virulence of the diphtheria bacillus, from the most toxic infection through all grades to the vanishing point at which the person harbouring the bacilli becomes merely a carrier.

The variation in the degree of infection produced depends to some extent on the natural resistance of the person attacked, but that it depends also on the absolute virulence of the micro-organism is evidenced by the varieties of the diphtheria bacillus, the pathogenic properties of which are traceable from the Klebs-Loeffler bacillus of high virulence, through the apparently inert Klebs-Loeffler, to the non-toxic or only to become toxic pseudo-diphtheria bacillus.

The Public Health Standpoint.

If the subinfections of scarlatina are immunizing, then they are of advantage to the individual. From the public health point of view it must be asked, "Are they sources of infection to others?" If so, they may be of disadvantage to the community, for the infection which will have only a protective and immunizing effect on one person may, when transferred to other persons of low resistance, result in graver pathological conditions. If these subcases of scarlet fever are infectious, it would appear that usually their infectivity is of low degree; the infection is not likely to produce otorrhoea or rhinorrhoea, but if these discharges are coincident, then the infection is likely to be spread. This would lead to the conclusion that every effort should be made to cure such discharges, especially in school children who come into close contact with each other, and herein, as in so many other directions, there is hope of much benefit from the institution of routine school medical inspection.

ON THE RESULTS OF THYROID TREATMENT IN INFANTILE WASTING.

BY J. W. SIMPSON, M.D., F.R.C.P.E.,
ASSISTANT PHYSICIAN, SICK CHILDREN'S HOSPITAL, EDINBURGH.

ON examination of thyroid glands taken from at least 100 children dying of various diseases, pathological changes were noticed in a large number. The fact that these changes were especially constant in children who had died in a "marasmic" condition led me to inquire if this state of the thyroid might not play some part in the all too common condition of infantile wasting. In a former paper[1] I described the pathological changes seen, and also the results of treatment of 20 marasmic cases with small doses of thyroid extract. These results were decidedly encouraging, but the number treated was too small to make them at all convincing. Since that time I have had the opportunity of treating a much larger number of wasting cases (80), and this second paper deals with the results obtained from these.

In cases of infantile malnutrition the history is usually one of improper feeding, and this being so, one frequently finds that when put on a more suitable diet the children at once begin to improve, without the addition of any drug. All my cases were therefore at first carefully dieted for at least two or three weeks, and thyroid was only given to those who showed no signs of improvement after this time.

In dieting, some modifications of milk, such as peptogenic milk, peptonized milk, milk and cream mixture, whey and milk mixture, etc., according to the conditions present, was first tried. I found, however, that the diet which on the whole gave the best results when thyroid was being administered was a diluted milk and cream mixture treated with sodium citrate (1 to 2 grains to the ounce of milk). Cream was usually added after the first two or three days, beginning with half a teaspoonful to the bottle. Why thyroid reacts better with this diet than with the others it is difficult to say, but it may be due to the alkaline character of this milk mixture, as in cases of wasting there is frequently some intestinal disturbance which leads to the presence of fatty acids, and this acid condition of the intestinal tract may prevent the absorption of the drug.

Results in Cases Treated with Thyroid.

Out of a total of 80 cases treated with thyroid, 72 were infants under nine months, and their history was usually one simply of wasting. In the 8 over this age the wasting had supervened after some acute disease. Out of this total (80), 12 died and 5 did not return to hospital after treatment had been carried on for two or three weeks. Of the 12 cases which ended fatally, 2 were extremely ill when first seen, and probably the stage of their illness was too advanced to allow of the administration of thyroid being beneficial. In both these children the weight was under 4 lb, and both showed evidence of failing circulation, oedema of legs, etc. One died two days, and the other four days, after being first seen. Two others were cases of marasmus due to congenital syphilis; of the other 8 deaths, one of which improved for some little time, but eventually died of tuberculous meningitis, 2 were country cases and were only seen a few times, whilst the remaining 5 did not react to treatment in the slightest degree. The remaining 63 cases, however, all did well. No doubt a number of those infants would eventually have improved on dieting alone, but the fact remains that they failed to put on weight for the first two or three weeks on such treatment, and that on the addition of thyroid (the same dieting being continued) a number of them at once increased rapidly in weight, while some who remained stationary for a week or two showed beneficial results after that time.

In the cases treated some interesting points were noted. One specially instructive was that of the children of a woman who was suffering from well-marked chronic phthisis. Five years ago she brought her infant (aged

5 weeks) to see me. The history was that at birth the child had been big and well nourished, and seemed to thrive satisfactorily for the first two weeks on bottle feeding, but then began to go back and show signs of wasting. Thyroid treatment had not at this time been tried, so careful dieting alone was carried out, but the child grew steadily worse and died. The second child also appeared quite healthy at birth, but it too, after the second week, began to waste, and was brought to see me. I tried dieting alone until the child was 6 weeks old, but as it steadily lost ground, I then gave thyroid (the same dieting being continued). The child almost at once began to gain weight steadily, and is now big and strong. Eight months ago this woman had another infant, and practically the same history as regards wasting was repeated. She came to see me at the hospital, as she said "to get the powders." I dieted this child for three weeks, during which time it lost weight. I then added thyroid, and the result was that the infant began to pick up at once, and has since done excellently. These results are interesting from the point of view of the known condition of the thyroid in phthisical patients, and its probable effect on the thyroid of the infant.

Congenital Syphilis with Wasting.

Five of my cases were syphilitic, in which wasting was a marked symptom. Mercury was at first given, without any effect on the weight, then, along with mercury, thyroid was administered. The result was that 3 out of the 5 cases began to gain and eventually recovered. The other 2 (already noted) did not react at all and death ensued.

Wasting in Older Children.

Of 8 children over 9 months who were suffering from malnutrition, following an attack of an acute disease, 6 improved on thyroid treatment, 1 died of tuberculous meningitis, and 1 was lost sight of. I have only mentioned 8 cases of older children, but in the last six months I have used thyroid frequently for such children suffering from debility after such acute diseases as pneumonia, measles, and whooping-cough. The results have been very favourable, except in those cases which proved to be tuberculous; in such cases thyroid treatment would seem to be contra-indicated.

Dosage.

In the treatment of children under 9 months I begin with $\frac{1}{3}$ grain thyroideum siccum once daily. Formerly I used to give slightly larger doses, but in some cases this seemed to induce diarrhoea. In older children I go up to 1 grain once daily, according to the age of the child. In the giving of thyroid it is advisable to test the faeces to see whether they are acid or alkaline. In two cases in which thyroid appeared to produce no good results I found that the stools were very markedly acid. Sodium bicarbonate was then given three times a day, and shortly afterwards both children began to improve.

Complications.

In no case have I noticed any grave symptoms which might fairly be attributed to the use of the drug. I have already mentioned diarrhoea as sometimes occurring, but, even when this was so, it was impossible always to be sure that it was due to thyroid treatment. The diarrhoea was never either severe or prolonged.

In six cases a bright punctiform rash appeared, mostly on the body. In two cases it was confined altogether to the front of the chest. The rash was usually very evanescent, and disappeared in from twelve to twenty-four hours without any change of treatment. In only one case had I to stop the thyroid for a short time (three days). The rash thereupon soon disappeared, and on thyroid being again administered it did not recur.

In concluding I may mention that I found the result of cases treated in hospital to be not so satisfactory as of those treated at home, provided that in the latter case the mother was anxious and willing to carry out instructions. For instance, three patients under treatment in the ward showed no improvement; it was then decided to try them at home, the same dieting to be strictly carried out. An increase in weight was noticed almost from the first, and rapid progress was made toward recovery. It is difficult to explain why there should be such a difference between home and hospital results; it seems probable, however, that the amount of nursing and general "mothering" that is impossible in a hospital ward is very beneficial in such cases and conduces to a more rapid recovery.

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Two otherwise complete bodies are attached by an external bond, which consists of a union of the right and left buttocks respectively. The twins are of the male sex, and when seen were 22 months old. The genital organs are normal in every respect, except that the penis in each case is rather smaller than it should be. The testicles in each twin are in the scrotum. The most remarkable thing about them is the existence of a common anus. As far as I could tell by a rectal examination, the whole rectum is common.

For their age the twins are exceptionally healthy looking; there was no history of any kind of sickness since their birth. The mother is a fine type of a Filipino woman, and was still suckling the children, who are the only children she has had. I was unfortunately unable to obtain a clear account of the confinement, but it did not seem to have been very difficult. The children are able to walk about quite well; owing to their activity, the photograph was taken under great difficulties, and I was unable to obtain another view.

The twins are remarkably healthy, and it seems quite probable that they will live to become as famous as the Siamese twins, who reached the age of 46 years, married, and produced children. It will be remembered that in the Siamese twins the bodies were united by a band of flesh stretching from the end of one sternum to the same point on the opposite twin. As far as I can ascertain, this case of twins with a common rectum is unique.

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TREATMENT OF DEPRESSION OF SKULL IN NEWBORN INFANT.

THREE or four cases of depression of skull or depressed fracture in newborn children having been reported in the JOURNAL in the last twelve months or so, it may be of interest to record one in my own experience, which illustrates the simplicity with which such cases can be successfully treated.

After a tedious first labour, the child when born was found to have a depression in the left fronto-parietal region, about $1\frac{1}{2}$ in. or 2 in. in diameter. As it was hoped

that recovery might occur spontaneously and the child seemed in no way affected by the condition, nothing beyond a fruitless manipulation was done till the tenth day. The child was then taken into our cottage hospital where, with all needed help, I operated under an anaesthetic as follows:

I provided myself with an awl made from a large sized knitting needle and an elevator made of stout wire with bowed handle and a point, somewhat flattened, bent to a right angle, so as to be about ⅛ in. in length. I dissected back a small tongue of scalp, including the pericranium, over the centre of the depression, and cautiously bored through the skull. Inserting my elevator, I then easily drew the part into position. A suture and dressing were applied, and the child sent home in a few hours. Healing took place in the course of a week without the smallest complication.

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The temperature and pulse being high, and the general appearance and condition of the patient unsatisfactory, I removed, without anaesthetic, the roots of the broken-down tooth, and ordered a mouth wash of formaldehyde (1 in 1,000) to be used every four hours, and hot boric acid fomentations outside the cheek. A mixture consisting of quinine sulphate gr. ij, dilute nitric acid ♏ ij, magnesium sulphate gr. xv, and water ʒj, was ordered to be taken three times daily.

At the end of a week the patient returned apparently in normal health. The mouth and tongue were clean, the swelling of the cheek and floor of the mouth had subsided, and there was absence of ulceration.

He brought with him a mass of friable substance, about the size and shape of an almond, which he said had come away spontaneously from the anterior part of the floor of the mouth. The mass, consisting of soft salivary calculus, had presumably been extruded from Wharton's duct, and the specimen has been placed in Guy's Museum.

Secondary parotitis is well recognized as a result of abdominal lesions, especially after laparotomy, and is generally regarded as being due to an ascending infection from within the mouth. The focus of infection in this case was a tooth, and the inflammation of the salivary glands was evidently due to oral sepsis combined with stasis, the patient for some days previously being unable to use the left side of his jaws, owing, first, to the condition of the broken and jagged tooth, and later to the swelling of the parotid gland. The chief interest in the case is its rarity, and the rapid recovery of the patient in response to treatment.

Oral sepsis being of common occurrence, it seems remarkable that parotitis due to infection from the teeth is not more frequently seen. I can recall one similar case, and it may be that others have been overlooked owing to the great swelling of the cheek which so often accompanies suppuration within the mouth.

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Dr. THEODORE WILLIAMS said no nurse was admitted to the wards of the Brompton Hospital without medical examination, and all, while they were there, remained under medical observation, and in many cases for lengthy periods. He deprecated the admission of nurses who had previously had tuberculosis on the nursing staff of a consumption hospital. He emphasized the conclusion that there was very little risk indeed of infection inside a chest hospital.

Sir SHIRLEY MURPHY thought the value of the paper was increased by the fact that the observations were made by the same person all along, but it was much to be desired that similar observations should be made on groups of persons not associated with chest cases. It was possible that the question of age might be of importance in regard to nurses previously employed in other hospitals; there was an increasing incidence of death in the general population up to 35 years. It did not seem to be conclusively proved that even the small rise in the incidence of infection depended on the hospital residence.

Professor W. OSLER remarked that he had often said to persons fearful of contracting consumption that the best place for them in which to live would be a consumption hospital. His impression was that the resident persons in general hospitals were more liable to contract tuberculosis than the public at large. There was no doubt universal infection in all chest hospitals, but the resistance of those belonging to the Mount Vernon and Brompton Hospitals was good testimony to the sanitary and dietetic arrangements in these institutions.

Dr. G. A. HERON held that the condition of infection as regards tuberculosis in the homes of the poor were much more serious than those in hospitals. He referred to the observations he and Dr. Chaplin had published on the infectivity of the dust in the Victoria Park Hospital; only two of the animals treated with the dust developed tuberculosis. His clinical experience in regard to the staff of that hospital was that in 21 years he had known 6 cases of infection among the 35 to 40 nurses constantly employed there; in 12 years as regards the resident medical officers 5 had left the hospital with tuberculosis, and of these one was undoubtedly tuberculous before he undertook office. It was important to take precautions that the publication of such statistics should not be allowed to minimize the general fear of infection among the general public.

Dr. NATHAN RAW said that during the last twenty-two years he had made similar observations to those in the paper, and his conclusions were in agreement with them. Out of 420 nurses and servants 8, and out of 17 house-physicians 2 developed tuberculosis. Nurses, he thought, were more prone to develop phthisis in asylums, next in general hospitals, and least in open-air wards or sanatoriums. The risk of nursing typhoid was greater than that of tuberculosis. He thought there was more tuberculosis among school teachers than nurses.

Dr. F. J. WETHERED said he believed the risk of contracting tuberculosis was greater in a general hospital than in a chest hospital. In this relation the risk was in them chiefly from tuberculous milk rather than from dried sputum.

Dr. SQUIRE, in reply, emphasized the desirability of the routine examination of nurses and others on leaving the hospital. No nurses, he thought, should be accepted who showed signs of active tuberculosis. He thought that age did not completely cover the difference in infection between those who had previously lived in hospital and those who had not.

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Professor W. OSLER remarked that he had often said to persons fearful of contracting consumption that the best place for them in which to live would be a consumption hospital. His impression was that the resident persons in general hospitals were more liable to contract tuberculosis than the public at large. There was no doubt universal infection in all chest hospitals, but the resistance of those belonging to the Mount Vernon and Brompton Hospitals was good testimony to the sanitary and dietetic arrangements in these institutions.

Dr. G. A. HERON held that the condition of infection as regards tuberculosis in the homes of the poor were much more serious than those in hospitals. He referred to the observations he and Dr. Chaplin had published on the infectivity of the dust in the Victoria Park Hospital; only two of the animals treated with the dust developed tuberculosis. His clinical experience in regard to the staff of that hospital was that in 21 years he had known 6 cases of infection among the 35 to 40 nurses constantly employed there; in 12 years as regards the resident medical officers 5 had left the hospital with tuberculosis, and of these one was undoubtedly tuberculous before he undertook office. It was important to take precautions that the publication of such statistics should not be allowed to minimize the general fear of infection among the general public.

Dr. NATHAN RAW said that during the last twenty-two years he had made similar observations to those in the paper, and his conclusions were in agreement with them. Out of 420 nurses and servants 8, and out of 17 house-physicians 2 developed tuberculosis. Nurses, he thought, were more prone to develop phthisis in asylums, next in general hospitals, and least in open-air wards or sanatoriums. The risk of nursing typhoid was greater than that of tuberculosis. He thought there was more tuberculosis among school teachers than nurses.

Dr. F. J. WETHERED said he believed the risk of contracting tuberculosis was greater in a general hospital than in a chest hospital. In this relation the risk was in them chiefly from tuberculous milk rather than from dried sputum.

Dr. SQUIRE, in reply, emphasized the desirability of the routine examination of nurses and others on leaving the hospital. No nurses, he thought, should be accepted who showed signs of active tuberculosis. He thought that age did not completely cover the difference in infection between those who had previously lived in hospital and those who had not.

SECTION OF BALNEOLOGY AND CLIMATOLOGY.

Wednesday, April 20th, 1910.

Dr. LEONARD WILLIAMS, President, in the Chair.

Arthritis Deformans.

A DISCUSSION on arthritis deformans introduced at the preceding meeting by Dr. Llewelyn Jones, of Bath, was reopened. Dr. GARROD supported the opener's view that under the name of arthritis deformans were commonly included several entirely distinct morbid conditions. Osteo-arthritis could not be regarded as merely the later stage of rheumatoid arthritis; since either disease occurred at all ages, it could not be assumed that the distinctive features were due to the age of the sufferer. In cases in which articular lesions of both kinds were simultaneously observed in the same patient careful inquiry would afford evidence that the two diseases had been running concurrently. It was of much importance that the question of the identity or otherwise of osteo-arthritis and rheumatoid arthritis should be settled, since upon the answer would depend not only diagnosis, but also prognosis and treatment. Dr. LATHAM (Cambridge) referred to a theory advanced by him in 1901 that rheumatoid arthritis was due to irritative and destructive lesions located in the spinal cord, and specially in the cervical and lumbar enlargements. Treatment should be directed, he thought, to the abatement of this spinal mischief, and when the exciting cause had been removed cupping and blistering the spine were useful. Mr. WILLIAM ARMSTRONG (Buxton) considered that if a specific bacillus originated the disease, vaccines and serums which had been used would have shown some definite results, whereas so far as he could learn they had proved inert. He strongly supported the view laid down by Dr. Latham, and had found it to work out well clinically. Dr. SEPTIMUS SUNDERLAND referred to the curious frequency of arthritis deformans in women as compared with men. This had been explained by Oliver Sunderland, of Bexley, who pointed to the fact that women possessed a vagina and uterus wherein germs which could produce the disease might often lurk unsuspected and undiscovered; and that when a vaginal, cervical, or uterine lesion coexisted the incidence of the disease was favoured. These views accorded with the speaker's own views, published in 1898, that gonorrhoeal arthritis, contrary to the usually accepted opinion, was more common in women than in men. Dr. LLEWELYN JONES (Bath) replied.

Dr. LEIGH CANNEY (Assouan), in a paper entitled the Climate of Egypt and North Africa and its Influence on Disease, urged that cases of rheumatoid arthritis, and persistent albuminuria after various infections should be sent to Egypt as early as possible before serious damage was done. Many of the illnesses so much benefited by the Egyptian climate, especially the pulmonary and renal cases, were best treated in hotels, and should travel up the Nile by train rather than steamers or *dahabeahs*. Assouan was the driest health resort in the world, 28.2 per cent. drier than Mena, 14.6 than Helouan, and 11.3 than Luxor, and this dryness supplied a great bracing quality.

SECTION OF DISEASES OF CHILDREN.

Friday, April 22nd, 1910.

Dr. MILNER BURGESS in the Chair.

THE following were among the exhibits:—Dr. R. HUTCHISON: Three cases of *Oxycephaly* in children aged respectively 1, 5, and 4 years. They all showed the typical oxycephalic head. Two had exophthalmos, while the other had the eyes wide apart and divergent. All three showed congenital deformity of the fingers. Dr. MORLEY FLETCHER regarded the condition as due to a developmental defect, and not as secondary to an abnormality of the brain. Dr. SUTHERLAND agreed with this view. Dr. HUTCHISON, in replying, said that he also believed the condition to be due to bone maldevelopment rather than to a brain condition. Dr. LANGMEAD: (1) A case of *Congenital scoliosis* in a girl aged 10 months, who had a sharp bend to the left in the dorsi-lumbar region of the spine. A skiagram showed this to be due to an additional wedge-shaped bone interposed between the last dorsal and first lumbar vertebrae of congenital origin. (2) A case of *Pigmentation* in a baby; it had blue patches on the buttocks and lumbar region. The exhibitor pointed out that this pigmentation was a racial characteristic in Japanese and half caste babies. There was some doubt as to the nationality of the child's grandfather. Dr. MILLER: (1) A case of *Juvenile general paralysis*, with loss of knee-jerk in a boy aged 14, who exhibited the characteristic symptoms. There were no signs of inherited syphilis, but a positive serum reaction had been obtained. (2) A case of *Lymphadenoma*, starting at the twenty-fifth month, in a child now 3 years old. Six months previously a gland, which on microscopical examination appeared to be lymphadenomatous, had been removed from the neck. There had been a steady increase in the size of the glands. The white cells in the blood numbered 6,800, and showed a slight excess of lymphocytes. Dr. SUTHERLAND pointed out the great difficulty of distinguishing between this condition and tuberculosis. Dr. POYNTON stated that cases of congenital syphilis were sometimes mistaken for lymphadenoma. Dr. PARSONS: A case of *Congenital acholuric jaundice* in a boy aged 8, who had been yellow from birth. There was no other case of jaundice in the family, and no specific history. The spleen was uniformly enlarged. The temperature was 100°, and the blood count showed marked anaemia, with only 28 per cent. haemoglobin. Dr. LANGMEAD read a paper on eighty consecutive cases of wasting infants fed on undiluted citrated milk.

ODONTOLOGICAL SECTION.

Monday, April 25th, 1910.

Mr. WILLIAM HERN, President, in the Chair.

MR. HOPEWELL-SMITH, in a paper entitled, "Two Odontoceles and some other Cysts," described two cases of malformations of teeth which had been retained in the jaw, unerupted—in one case of a man, aged 31; in the other of a medical man, aged 41. These had given rise to unilocular cystic tumours of the jaws, which, differing from anything previously noticed and recorded by pathologists, had, in one instance, been diagnosed as a myeloid sarcoma of the superior maxilla. Neither could be classified as examples of dentigerous cysts or follicular odontomes. The exhibitor, therefore, proposed for them the new terms of subcapsular and extracapsular odontoceles respectively. One specimen showed absence of portions of the crown of the tooth, the other additions to its crown, in the form of a calcified capsule—the dental sac or follicle. Epithelium lined the wall of both cysts. Incidentally it was pointed out that the gum margins near the necks of the teeth are freely supplied with mucous glands on the inner palatal aspect, and that they are absent over the *external* surface of the alveolar processes. The life-history of the dental follicle or capsule was briefly narrated, and the opinion expressed that the fluid of dentigerous cysts owed its origin to the breaking down of the stellate reticulum of the enamel organ.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Wednesday, April 20th, 1910.

Dr. A. FULTON, President, in the Chair.

Craniotomy.

DR. G. A. ROBINSON, in opening a discussion on Is Craniotomy Justifiable? said that owing to the extremely high mortality with which Caesarean section used to be attended, craniotomy became the operation of choice when one or the other was necessary to effect delivery. It had even been stated authoritatively that the maternal mortality after craniotomy did not exceed that of normal labour. Modern methods, however, had succeeded in reducing the mortality of Caesarean section to 5 to 8 per cent. It was one of the easiest of abdominal sections to perform, and it had the advantage of presenting the mother with a full-term healthy baby; she could be sterilized if necessary, and altogether it provided the best results for the mother. Perforation should never be performed on a living child. With a conjugate of $2\frac{3}{4}$ in. symphysiotomy or pubiotomy provided alternate methods. The speaker quoted 20 cases of Caesarean section with three deaths, but he pointed out that the fatal cases occurred in private practice amid dirty and septic surroundings. These cases should be diagnosed early

and removed to an appropriate hospital or home. Dr. A. C. REID agreed that when the child was living, and circumstances were favourable, Caesarean section should be regarded as the operation of election. But as a Poor Law medical officer, he was often called in by midwives when labour had already lasted twenty-four hours and the woman was exhausted. Prompt removal to hospital in such cases was difficult, and the general practitioner was forced to rely on craniotomy. His own experience was not encouraging, as he had had 3 deaths in 5 cases, two from ruptured uterus and one from shock. Still he held that craniotomy was justifiable where a living child was impossible, and considered it to be the operation of election (1) where the child was non-viable and the mother's condition was urgent; (2) in the case of monstrosities; and (3) where the fetus was exceptionally large, and especially if it was dead. He urged that homes should be established in which difficult labours could be properly watched. In the discussion which followed, most of the speakers favoured Caesarean section.

Exhibits.

Mr. R. G. HOGARTH showed a boy admitted three weeks ago into the hospital with symptoms of internal haemorrhage. A ruptured spleen was discovered at the operation and removed. The boy made a splendid recovery. Mr. KENNETH BLACK showed a case of wry-neck successfully treated by removing the sternal head of the sterno-mastoid, and uniting this to the clavicular portion.

ULSTER MEDICAL SOCIETY.

Thursday, April 21st, 1910.

Dr. MAGUIRE, Vice-President, in the Chair.

PROFESSOR MILROY gave a short account of his investigations on the question of *Mental fatigue*. The fatigue was evidently in the higher or psychic centres and connected with the faculty of attention; relief or rest was not attained by a change of sense as from visual to auditory. Professor LINDSAY, Dr. CALWELL, and Dr. SHAW discussed the paper. Dr. J. A. MILROY explained the various methods of estimating the *Oxygen capacity of the blood*, and detailed his own method. Dr. W. J. WILSON made some remarks on *Carbon monoxide poisoning*, and gave particulars of the varying quantity of this gas in pure coal-gas and in the various admixtures with water-gas, as now used for illuminating purposes. He quoted figures showing the enormous increase of accidental deaths since the introduction of water-gas. Dr. CALWELL moved that the matter, owing to its public importance in view of the erection of new gasworks for the city, be referred to the council of the society for consideration. This was seconded by Dr. CLEMENTS and passed unanimously. Professor SYMINGTON showed some lantern slides of skiagrams of the *Development of teeth* of various apes. Mr. P. T. CRYMBLE showed lantern slides of (1) the blood supply and position of the pelvic colon; and of (2) the suspensory muscle of Treitz. Dr. J. S. DICKEY showed slides illustrating the anatomy of the lung apex. In an adjoining room there were exhibits and demonstrations, among which were:

(1) Mr. CRYMBLE: Preparation demonstrating the anatomy of lumbar puncture. (2) Surgeon MCCLOY, R.N.: Specimens of *Glossina palpalis*. (3) Dr. SINTON: Trypanosomes and spirochaetes. (4) Captain SEWELL: A new solid medium for typhoid differentiation. (5) Captain SPILLER: Specimens of malaria—(*a*) benign tertian; (*b*) quartan, malignant tertian, trypanosomes, kala-azar, *Spirillum obermeiri*. (6) Dr. LEONARD KIDD: (*a*) Periosteal sarcoma of femur; (*b*) parts removed in excision of half the tongue; (*c*) small dermoid with twisted pedicle. (7) Dr. DARLING: Sarcoma of caecum, with secondary invasion of abdominal wall. (8) Mr. R. J. JOHNSTONE: Uterine fibroid with sarcomatous degeneration (slides); large recurrent retro-peritoneal lipoma; hydatidiform mole; parts removed from a case of volvulus of caecum.

THE Hamburg Institute of Tropical Hygiene is to be rebuilt on a larger scale. A hospital will be attached to the institute.

Mr. W. H. LEVER, it is stated, intends to give the damages awarded his firm for libel by various newspapers, amounting in the aggregate to £91,000, to the University of Liverpool, the Liverpool School of Tropical Medicine, and other important public services in Liverpool. The university will be the chief beneficiary.

Reviews.

STREPTOCOCCAL INFECTION.

THE first part of the work upon surgical infective diseases, which Professors KOCHER and TAVEL have projected, deals with the streptococci[1] and will prove of considerable value to surgeons and bacteriologists. The scheme devotes a little more than thirty pages, after a brief historical introduction, to morphology, biology, pathogenicity for animals, and the production of antibodies. The next two hundred pages describe the pathological effects produced in the human body, illustrating all phases and types of streptococcal infection by a wealth of clinical material, which though it makes rather wearisome reading if taken in big doses, should prove of use not only to those who write books, but to those who unhappily are called upon to treat such conditions. About twenty pages at the end of the book are reserved for indications as to the general lines of treatment and the use of the organisms, or their products, as therapeutic agents. It is impossible to do more than indicate a fraction of the observations and assertions put forward, but it should be stated that the evidence upon which they are based is free from obscurity.

From the figures given it would seem quite easy to mistake the *Streptococcus conglomeratus*, in its morphological aspects, for a staphylococcus, but, of course, it is common enough to find that an infection which in smears looks like the latter proves on cultivation a streptococcus. It is interesting that virulence in an animal is no criterion as to virulence in man. Interesting, too, the suggestion that virulence is dependent on biological properties, such as the power to determine coagulation of tissue juices. Whilst it is true that the same organism that produces erysipelas in one individual may give rise to a different type of infection in another, it is not true that *any* streptococcus can determine *any* kind of infection in *any* individual. If the injection of cocci of the strain inducing a given infection causes a phagocytosis, some estimate of the prognosis may be formed. Similarly, the value of a serum may be gauged by testing the agglutinating power of the blood serum of the patient against the strain from which the serum has been prepared. The effect of congestion hyperaemia upon the development of experimental streptococcal lesions hints at the necessity for extreme care and discrimination in its employment in acute cases. The authors are advocates of the use of antistreptococcal serum, and it is notable that they endorse Wright's opsonin theory as against those of Ehrlich and Metchnikoff, and attribute, as he does, the beneficial working of the serum—in part, at least — to the stimulation of phagocytic activity. Their own experiments with serums demonstrate a certain degree of specificity. In discussing the general effects of streptococci they point out that in diagnosis too much reliance must not be put upon the type of temperature curve. Discussing the various ways in which use has been made of streptococci for treating neoplasms, they give examples of cases treated by Coley's fluid; they admit that generally there is a good effect in diminishing pain, and that temporary retrogression is sometimes observed, but they evidently do not regard it as a curative agent. Many of the numerous cases detailed throughout the book to illustrate the protean aspects of the disease well repay reading; many of them the reader will be able to match from his own experience; but gathered together as they are here, a storehouse of reference is supplied which will take a long time to exhaust. There is a bibliography.

PULMONARY TUBERCULOSIS.

DR. BARDSWELL has rendered good service in publishing his inquiry into *The Expectation of Life of the Consumptive after Sanatorium Treatment*.[2] Public opinion, which rushed to the conclusion that sanatorium treatment was to cure most consumptives in three months, is already

[1] *Vorlesungen über chirurgische Infectionskrankheiten*. Von Dr. Th. Kocher und Dr. E. Tavel. Erster Teil: *Die Streptomykosen*. Jena: Gustav Fischer. 1909. (Roy. 8vo, pp. 257; 80 illustrations. M. 6.)

[2] Oxford Medical Publications. *The Expectation of Life of the Consumptive after Sanatorium Treatment*. By Noel D. Bardswell, M.D., M.R.C.P., F.R.S.Edin. Edinburgh, Glasgow, and London: H. Frowde, and Hodder and Stoughton. 1910. (Demy 8vo, pp. 130; 3s. 6d.)

swinging towards a pessimistic attitude, and the medical practitioner is seeking some definite estimate of the results which may be expected from treatment in individual cases. A study of Dr. Bardswell's book will go a long way towards helping the practitioner to appreciate the possibilities of sanatorium treatment, and through him to steady the popular view of what this treatment is capable of accomplishing. The general conclusion may be stated in Dr. Bardswell's own words:

> Sanatorium treatment must be regarded as a relative cure only; in relation to the treatment of incipient and moderately advanced cases it can be considered to be curative in a high degree. As regards the advanced cases, it must be recognized as a palliative and as means of prolonging life.

The book consists in a careful analytical study of 241 consecutive cases admitted to two sanatoriums for comparatively well-to-do patients. There has been no selection of cases, but the circumstances of the patients placed them in a somewhat better position to benefit from treatment than is the case with patients of the working class. The figures tend strongly to confirm the experience of all who have followed the treatment of consumptives on sanatorium lines, especially in regard to three points: (1) The essential importance of early recognition of the disease, so that treatment may be commenced before the disease is far advanced; (2) the necessity for prolonged treatment; and (3) the necessity for continued care for some years after the disease has become arrested. Dr. Bardswell considers that the minimum period for residence in the sanatorium should be six months, but recognizes that certain patients are by temperament prone to become morbid and dissatisfied after a few weeks, and expresses the opinion that such patients should be discharged at the first indication of such a condition. As to the need for continued care after leaving the sanatorium, Dr. Bardswell states a fact insufficiently realized in terms with which no one possessing experience on the subject will disagree. He says (p. 30):

> It cannot be doubted that, in the large majority of instances, the robust looking consumptive, when he leaves a sanatorium, has taken but the earlier steps on the road to complete cure. If he is able to maintain his good general health for a year or two absolute cure may be attained; should he fail to do so, there is every likelihood of the disease again becoming active.

The life-histories of the cases which occupy the latter half of the book give point to the commentaries and statistics. No cases discharged since 1905 have been included, so that there has been a sufficient time to get some knowledge of the permanence of the improvement in those who left the sanatorium apparently well. The general conclusion from the statistics is thus expressed by Dr. Bardswell:

> The inference to be drawn from my statistics is: that of every 100 cases of consumption, taking them as they come without any attempt at selection, 50 will die within a period of from four to nine years after their admission into the sanatorium, and the remaining 50 will be for the most part enjoying good health after the same period. In my opinion the further expectation of life of the latter 50 is favourable.

It must be noted that a large proportion of the cases from which these deductions are drawn were "advanced" cases. The tables justify the opinion that the recognition and treatment of consumption in its earliest stages would result in a great increase in the proportion of cures. This is a valuable contribution to our knowledge of the possibilities and the limits of sanatorium treatment of consumptives, and should be widely studied.

The *Fifth Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis*[3] covers the period from February 1st, 1907, to February 1st, 1908. It is characterized by the same careful and comprehensive statistical analysis which has been the feature of these reports from their commencement. There are also, as in former volumes, records of original inquiries by members of the staff of the institute. During the twelve months under review, 1,475 new patients were admitted for treatment at the institute, and nearly 6,000 patients have been under treatment in the five years covered by this and the preceding reports. In the statistical section, or, as it is called, the "Clinical and Sociological Report," a mass of figures is being gradually accumulated and classified which cannot fail to be of value in helping in the solution of various etiological problems in connexion with tuberculosis. Here and there, amongst the comments on the various statistical tables, we come across suggestive remarks which open out points for further examination, or indicate some general impression produced on the mind of the investigator. An interesting note from the sociological point of view is founded on the examination of a table showing the employment followed by the various applicants for advice at the institute. The report states (p. 42): "It is evident from this table that for some reason or other fewer patients work nowadays than in the beginning of our service. . . . It would seem that our influence upon the community has been for idleness . . ."; and further on (p. 44): ". . . One can read that a great many of the patients who come to the dispensary become pensioners of the institute to some degree." This seems to bring Philadelphia very near to London. The harmful influence of excess in alcohol in the causation of tuberculosis is now generally accepted, and it seems from this report that we may also have to include indulgence in tobacco amongst the predisposing causes. It must, however, be borne in mind that statistical tables require to be checked by other methods of investigation, and the authors of this report are under no misapprehension as to the reliance which can be placed on statistics, and discuss their figures in a thoroughly judicial manner. The opinion is expressed (p. 20) that "whatever else we may wish to read out of morbidity and mortality statistics on tuberculosis it is quite certain that we cannot read out of them a high rate of implantation from bovine origin," and that the hypothesis of dormant bovine tuberculosis in human beings from ingested milk is untenable. Another pronouncement, based on the records of examination for tubercle bacilli, is also worth noting (p. 58). Because tuberculous persons occasionally spit up matter which is full of tubercle bacilli extremists have jumped to the conclusion that all matter spit up by tuberculous people is full of tubercle bacilli and that the air is permeated with tubercle bacilli spat up by consumptives. If there were serious risk in this direction we should not expect to find the prevalence of tuberculosis decreasing, seeing that every consumptive comes into close communication with many people who are thus exposed to the effects of any infection of which he may be the source. As, however, the case of early tuberculosis is non-contagious "severe restraint of the movements and activities of persons in the early stage of tuberculosis is unwarranted." Efforts in his case should be for cure rather than for prevention. For effective prevention isolation of the *advanced* case is necessary. "Were every advanced case of tuberculosis humanely isolated, early cases might be safely disregarded without in the slightest degree interfering with a successful campaign against tuberculosis" (p. 59). The special subjects of investigation include observations on bone marrow in cases dying of tuberculosis; on fibrosis of the lung; on pneumothorax in pulmonary tuberculosis; and on the opsonic index in pulmonary tuberculosis. Drs. Joseph McFarland and E. J. G. Beardsley have investigated the question of the elimination of tubercle bacilli, and conclude that tubercle bacilli do not appear in the faeces except in cases in which they are swallowed in the sputum or enter directly from tuberculous ulcers of the intestine. The report, like those which have preceded it, will repay careful study.

The publication of a Roentgen atlas[4] of lung tuberculosis offers great possibilities. The photographs might, for example, be utilized to demonstrate the more common situations and paths of spread of tuberculosis in these organs, or to illustrate the value of the Roentgen rays in the diagnosis of the disease; or the progress of individual cases, and the results of treatment might be recorded by a series of pictures taken from the same patients at successive periods. There is, of course, a still further use of more restricted interest—namely, to teach how the skiagrams of lung disease should be read by explaining the relation of the shadows to the physical signs observed during life and to pathological changes found *post mortem*. In the atlas

[3] *Fifth Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis.* February 1st, 1907, to February 1st, 1908. Edited by J. Walsh, A.M., M.D. Philadelphia: Henry Phipps Institute. 1909. (Sup. roy. 8vo, pp. 463).

[4] *Röntgenatlas der Lungentuberkulose.* Dr. Otto Ziegler and Dr. Pau Krause. Zugleich II, Supplement: Band zu *Beiträge zur Klinik der Tuberkulose.* Herausgegeben von Prof. Dr. L. Brauer. Würzburg: C. Kabitzsch. 1910. (Sup. roy. 8vo, pp. 15, Taf. 51. M.40.)

by Drs. ZIEGLER and KRAUSE the arrangement lends itself excellently to this last use. There are some sixty extremely good Roentgen-ray photographs of the chest contents from many cases of lung tuberculosis, and opposite each picture is a brief outline of the case with the physical signs found on examination, and, in some, the pathological conditions found after death. Thus we may learn the shadow reading of consolidation, cavities, etc., and compare the findings in the various cases of disease with the skiagrams of the healthy chest. A large proportion of the skiagrams seem to be taken from cases of advanced tuberculosis which could have been easily diagnosed by the least expert clinician, and in which, therefore, the assistance of the *x*-ray expert would hardly have been required. Still, as a record of the appearance produced by advanced lung disease they are interesting. One important point is brought out by this series of pictures which deserves some attention—namely, the frequency with which the lymphatic glands at the root of the lung are affected. The shadows of diseased bronchial glands is a feature of a large number of the pictures. Another interesting feature is the clearness with which the bronchial-tree shadow is seen in many of the photographs. The book is well got up, and the individual plates could not well be better. In a short explanatory preface of fifteen pages the authors show that they view their subject in proper perspective. One result of their observations is to suggest that the hilus or root of the lung, rather than the apex, is the most frequent starting point of tuberculosis. They point out, however, that when tuberculosis commences as a catarrh of the apex this cannot be detected by the Roentgen rays, though it can be by physical examination. If the disease commences with an outcrop of tubercle these may cause a shadow. The authors recognize the difficulty of distinguishing consolidation of the lung from thickening of the pleura, and the impossibility of a differential diagnosis in cases of pulmonary induration or consolidation. We should have been glad to see more examples of the picture formed in early tuberculosis of the lung, and a systematic arrangement of the plates to show the progressive changes in the shadow picture as the disease advances; but within the limits which the authors have set themselves this is a most excellent work.

DIET AND METABOLISM.

THE volume on diet in Gilbert and Carnot's *Bibliothèque de thérapeutique* is by Professor MARCEL LABBÉ,[5] who has collaborated with his brother and Professor Landouzy during recent years in a good deal of work on this subject. The book is very complete, and contains a good index, the only misprints we have noticed being on page 3, where kilograms are printed for grams in a table of the amount of ash derived from the human body (taken from Gautier, who prints it correctly, the figures being Volkmann's), and on page 75, "raw meat" for "powdered meat." The general tone of the book is favourable to vegetarianism, which, Dr. Labbé says, has now entered upon a scientific phase, and receives the support of the advanced portion of the medical profession. He is not, however, an absolute vegetarian, recognizing that mixed diet is better tolerated, so that he advocates the use of milk, eggs, cheese, and even a limited amount of meat. His condemnation of meat is perhaps excessive, for he says that "it cannot be an exclusive diet for human beings"; he admits that the Eskimos and Gauchos on the pampas of South America live on it, but does not explain this inconsistency. He points out the fallacy of basing our estimates of the physiological requirements of the body on the habits of any race, for, as he says, these are more often the result of circumstances than of choice. Such objections to vegetable diet as the diminished digestibility and absorbability of vegetable albumen are, he considers, far outweighed by its advantages. He estimates the amount of proteid food required by an adult to be about 1 gram per kilogram of body weight—a fair estimate. During periods of growth or training, or when the body has to supply the demands of another organism, as during pregnancy and lactation, more may be required; but he thinks all the facts show that workpeople especially have acquired a deplorable habit of eating too much nitrogenous food, and that they would be in better health, more efficient workers, and be better off if they diminished their consumption of animal food. He gives tables to show the enormous advantage of vegetable diet in its supply of energy and in its cost, affording about ten times the number of heat units at a fourth of the price. He regards the alleged necessity for the addition of salt to food as a fiction; but he quotes some interesting experiments on mice to show that the natural salts of food are essential, for when these animals were fed upon saccharose, butter, and casein from which all salts were removed they died in from eleven to twenty days; even when a quantity of salts supposed to represent the natural equivalents was added they lived only from twenty to thirty days, while on milk containing the salts in a natural condition they lived indefinitely. He accounts for this by assuming that the natural salts are indispensable to the various fermentations of the body. In the consumption of food the human body acts better than the best machines that have been devised—that is to say, whereas the latter can never produce more than 5,525 kilogrammeters (the French equivalent of foot-pounds) for 100 units of heat the human body can produce from 8,500 to 10,625 kg.m. During the recent elections there has been an attempt to create prejudice by speaking contemptuously of horse-meat, yet there is evidence of its growing popularity in France. Labbé says that it is of great value as food and extremely palatable when it is not obtained from overworked old horses; it has a sweet taste due to the presence of glycogen and glucose. The increased consumption in Paris is shown by these figures: In 1867 the amount was 2,122 kg.; in 1887 it was 13,029 kg.; and in 1906, 46,560 kg. He speaks of asses' meat as "tender, nutritious, and agreeable to the taste"; but while this may be true of a well-fed domesticated donkey, travellers in Central Asia do not praise the meat of the wild ass (Kiang). A useful part of the book is that devoted to such subjects as the education of the people in matters of diet; he has summarized very well all that has been done in Belgium, France, and Germany on this subject (see our article, "Cheap Food," March 14th, 1908, p. 639). He condemns the No-breakfast plan, which he says in our cold climate involves burning up the reserves. He thinks the mid-day meal should be the chief and the evening meal less abundant. He gives some account of the official dietaries in the French army, navy, and prisons. That of the French army he considers excessive, and points out the absurdity of making no difference for the small men of the line and the giants of the cuirassier regiments and of giving a more liberal diet in peace than in war! For the navy he urges the need of furnishing the ships with proper refrigerator chambers. The prison diets are too low and too monotonous, and also err by making no difference for individuals. He describes the various dietetic systems used in the treatment of disease, such as those of Weir Mitchell, Oertel, and Schroth, but gives no satisfactory account of the pure proteid diet which has many advocates in England and America, and is undoubtedly useful in suitable cases. The last part of the book is devoted to the dietetic treatment of special diseases, the details of which are naturally influenced by French habits; in many instances the arrangement of meals and dietaries would not be agreeable to English patients. We feel some surprise that after all he has said in the early part of the book in favour of a lacto-vegetarian diet he advocates its use so little in disease—as, for example, in chronic nephritis. Indeed, he says that for nephritis with dropsy and amyloid degeneration, "a mixed diet rich in meat and salt-free is called for," but he recommends the lacto-vegetarian diet in skin diseases and in gout. The book concludes with a chapter on sick-room cookery.

Professor UMBER'S book on diseases of nutrition and metabolism[6] is a suitable work for students and young practitioners as it contains an adequate account of the subject, but it is in no way distinguished by original ideas or by exceptional clinical experience. Like most modern

[5] *Bibliothèque de thérapeutique.* Publiée sous la direction de A. Gilbert and P. Carnot. *Régimes alimentaires.* Par le Dr. Marcel Labbé. Paris: J. B. Baillière et Fils. 1910. (Post 8vo, pp. 597. Figs. 41. Fr. 12.)

[6] *Lehrbuch der Ernährung und der Stoffwechselkrankheiten.* Von Professor Dr. F. Umber. Berlin und Wein: Urban und Schwarzenberg. 1909. (Sup. roy. 8vo, pp. 410. M. 12.50.)

scientific writers on diet, he ranges himself on the side of those who regret the exaggerated value accorded to proteid food, and blames for it Liebig, the great pioneer on this subject, who taught that albuminous food was the sole source of muscular energy. He summarizes the recent work of Voit, Rubner, Atwater, Benedict, and Chittenden, and accepts the view of Rubner that size of the body is the only real cause of difference in the amount of metabolism; differences of age and sex do not depend on any other circumstance but that children are smaller than adults, and men are bigger than women. The other element to which differences can be attributed is muscular exercise. If two men of equal size eat equal amounts of food, but one gets fat and the other thin, he attributes the difference to temperament, as he says the thin man must take a great deal more exercise than the fat one. It is doubtful whether such statements are correct; there are stout persons who are singularly active, and it would seem that they have a greater tendency to form fat. The old view that muscular tissue can only be replaced by albuminous food is now given up; but it was so long taught that it has taken a firm hold on the public mind, and will require much effort to dislodge it. The consequence is that the value of meat is overestimated; it is thought to be the only true food for the man who does hard work. Professor Umber says that in his part of Germany far too much meat is eaten, not only among the well-to-do but even by those who cannot so well afford it; he regards such habits as irrational and in the long run injurious. After a description in his introductory chapters of the present position of the science of metabolism, he gives a short account of the chemistry of food and a chapter on the overfeeding cure, artificial feeding, and nutrient enemata. The remainder of the book is devoted to the pathology and the treatment of such various diseases as obesity, diabetes, gout and oxaluria. He speaks favourably of von Noorden's "oatmeal cure" for diabetes, but restricts it to serious cases with acidosis, and as he has found it to cause diarrhoea not infrequently, combines with it the use of tincture of opium. He follows Klemperer's rules in the treatment of oxaluria, and reports good results with his oxalate-free diet and magnesia. The chapter on gout is illustrated by some good plates.

NEUROLOGICAL TEXTBOOKS.

IN writing their excellent *Textbook of Nervous Diseases*[7] Drs. TURNER and T. G. STEWART have aimed at supplying the wants of general practitioners and senior students; no attempt has been made to compete with the larger manuals on neurology, and references to the literature are sparingly made, but the clinical description of the various diseases is given at some length. The authors have adopted an arrangement of their own in classifying the disorders; the first sections of the book deal with the anatomy and physiology and with the examination of the nervous system, and then follow sections on the special senses, the cranial nerves, and the peripheral nervous system. Next come 120 pages devoted to the diseases of the brain, with a useful table exhibiting the differential diagnosis between cerebral thrombosis, embolism, and haemorrhage. Separate sections are devoted to diseases of the membranes and diseases of the spinal cord; in their account of caisson disease, or diver's paralysis, the authors note that "the prognosis is good, relatively few fatal cases being recorded." Such a statement is, no doubt, true of caisson disease as met with in this country; it must be remembered, however, that Boinet and Audibert, on the other hand, estimate that no less than 100 deaths from this cause occur every year among the sponge divers on the coasts of the Mediterranean. Eighty pages are given to the general diseases of the nervous system; and the last quarter of the volume treats of vasomotor and trophic diseases, familial diseases, various obscure muscular and other diseases, migraine, hysteria, neurasthenia, psychasthenia, epilepsy, and the tics. We can confidently recommend this textbook to the students and practitioners for whom it has been designed. It is well and clearly written and up to date; comprehensive, but not abstruse, or intelligible only to the specialist. The printing and paper are excellent, and the numerous photographs with which it is illustrated, taken largely from patients attending the Queen Square Hospital, add much to the value and interest of the volume.

The therapeutic pocket-book for nervous diseases, by Dr. W. ALEXANDER and Dr. K. KRONER, both of Berlin,[8] is not concerned so much with the principles of the treatment of disease of the nervous system as with details of methods for relieving its symptoms. It is somewhat of the nature of an index of drugs, especially of different coal-tar analgesics. It is questionable whether the subject at the present time is susceptible of arrangement and discussion on what may be called rational lines. So little is known of the essential nature of nervous disease, that such a book almost inevitably deals with the flotsam and jetsam, the mere wreckage of the storm, not with the mechanism of the storm itself. Even electrical treatment—a subject which is very properly elaborated in the pocket-book—does not touch the nervous disease itself; it in the main merely helps to keep up nutrition of paralysed muscles, so that time may be saved when the nerve disease recovers of itself, if fortune so wills it. The treatment of tabes as given in the handbook is an instance. It includes such measure as potassium iodide and silver nitrate administered internally, the method of re-education after Fraenkel, suspension (surely discredited), and hydrotherapy. The general effect of the work, it must be admitted, is depressing, yet it is something that needed to be done. The special use of the book will probably be to afford suggestions to the medical adviser who is, as the phrase has it, at his wits' end as regards the therapeutics of the particular case. There is a preface by Professor Goldscheider and a meagre index.

BURDETT'S HOSPITALS ANNUAL.

IN all externals the edition for 1910 of *Burdett's Hospitals and Charities*[9] differs from preceding issues only in the fact that its price has been somewhat increased. No one, however, can well grumble at this, for at half a guinea this reference book remains well worth its cost. The information supplied regarding individual institutions is as practical as ever, and orphanages, nursing, and hospitals in Canada and the United States are dealt with more fully than formerly. In the chapter on recent extensions and building schemes the King Edward VII Hospital at Windsor, which when completed will not have cost more than £250 a bed, is mentioned as constituting a new and desirable departure. The statistics with regard to individual hospitals relate to the year 1908, and in the accompanying matter Sir HENRY BURDETT offers hospital committees good reasons for insisting on their secretaries keeping their books and making their returns in accordance with the rules of the revised system of hospital accounts.

In the general chapters dealing with charitable enterprise as a whole, the author returns to his favourite tilting ring—namely, a statement which appears to have been made at some time or other to the effect that there was a limit to the philanthropic purse. It is shown that up to the end of 1907—the survey extends no further—the volume of charity had been extending for twelve years. The total income of all charities, including missions, was in that year over £12,000,000. It is a vast sum, which, capitalized at 4 per cent., would be equal to nearly half the funded debt of the United Kingdom. Rather more than half of it came from what has been called the "dead hand," but even the balance contributed by living persons represents a voluntary income tax of about 2d. in the pound. About one-third of this £12,000,000 went to orphanages and homes, rather less than one-third was absorbed by missionary societies, and about 38 per cent., or over one-third, belonged to medical institutions. The author has recently, it appears, made a tour of inspection of most of the voluntary hospitals in England and Wales, the net outcome being a conclusion that when less than ten existing hospitals have been scrapped and new buildings

[7] *A Textbook of Nervous Diseases.* By W. A. Turner and T. G. Stewart. London: J. and A. Churchill. 1910. (Roy. 8vo, pp. 624, Illustrations 188. 18s.)

[8] *Therapeutisches Taschenbuch der Nervenkrankheiten.* Von Dr. W. Alexander und Dr. K. Kroner. Berlin: H. Kornfeld. 1910. (Sup. roy. 8vo, pp. 164; Abb. 6. M. 3.50.)

[9] *Hospitals and Charities.* By Sir Henry Burdett, K.C.B., K.C.V.O. London: The Scientific Press, Limited. 1910. (Pp. 939. 10s. 6d.)

have replaced them, and when some half-dozen others have reconsidered their rules and modernized and brought them up to date, the voluntary hospitals in England will be found to typify the best form which the world has ever possessed. This is a conclusion as easily credible as it is pleasant, but in respect of the future of the system on which hospitals depend the author's statements are likely to be less readily accepted. It may be true, and we hope is true, that "the outlook for voluntary hospitals was never better or more promising than it is at the present date." His figures regarding charities as a whole certainly support this conclusion so far as they go, but they are not made more convincing by scattering unmeasured abuse over those who take a less happy view of matters. Indeed, the interest of the whole of these initial chapters is weakened by the language used.

NOTES ON BOOKS.

IN the preface to the fourth edition of *Pocket Therapeutics and Dose Book*,[1] the author, Dr. MORSE STEWART, says that an endeavour has been made to perfect it, and so justify the acknowledgement which it has received in the past among physicians, nurses, and pharmacists. It is a compact little book, but as a guide to treatment would be more useful if to the brief notes on the physiological effects of the drugs were added information as to how frequently the doses advised may be repeated. The book is founded on the *United States Pharmacopoeia*, and the doses seem those used in America, their metric equivalents being added.

Dr. PROUT'S useful little manual, *Lessons on Elementary Hygiene and Sanitation, with Special Reference to the Tropics*,[2] has now reached its second edition. This is not surprising, as the value of the book and its use to the laity of the West Coast of Africa at large were pointed out in the review of the first edition. Originally given as a series of six lectures, the matter of the text was expanded to form an elementary textbook for the use of schools in the tropics. That the work has reached a second edition is proof that it met a need. Having been brought up to date and amplified, the little work should go on spreading the principles of hygiene amongst the rising generations of officials in Africa and other tropical countries.

The purpose of *Prescription Writing and Formulary*,[3] by Dr. JOHN SWAN, would appear to be to supply the information lack of which is accountable for the eccentricities in prescribing common among the younger generation. This purpose it certainly effects, and on that account is to be commended. Included as examples of correctly drawn prescriptions are about a thousand formulas, all of them simple, and none requiring drugs other than those which are official in the United States. They are classified under the heading of the conditions in which they are useful.

[1] *Pocket Therapeutics and Dose Book.* By Dr. Morse Stewart, jun. Fourth Edition. Philadelphia and London: W. B. Saunders Company. 1910. (Imp. 32mo, pp. 263. 5s.)

[2] *Lessons on Elementary Hygiene and Sanitation, with Special Reference to the Tropics.* By W. T. Prout, C.M.G., Hon. Lecturer School of Tropical Medicine, Liverpool. Second Edition. London: J. and A. Churchill. 1908. (Demy 8vo, pp. 179. 2s. 6d.)

[3] *Prescription Writing and Formulary.* By Dr. John Swan. Philadelphia and London: W. B. Saunders Company. 1910. (Pott 8vo, pp. 185. 6s.)

MEDICAL AND SURGICAL APPLIANCES.

A Curette for the Eustachian Tube.

MR. MACLEOD YEARSLEY, F.R.C.S. (London, W.), writes: Every otologist has experienced the reinfection of his radical mastoid operations through the Eustachian tube, and various suggestions have been made as to the best manner of closing that pathway. I have found the curetting of the tympanic ostium of the tube to fail very frequently, and attempts at closure by remnants of the tympanic membrane are equally unsatisfactory. I have recently, therefore, devised a fine curette, of steel welded on a copper stem, which can be passed with ease into the tympanic ostium and outer half-inch of the Eustachian tube for the purpose of thoroughly curetting this outer portion. I have now used this curette, which was made for me by Messrs. Krohne and Sesemann, in several cases, with excellent results, the curettement appearing completely to close the tube.

SANITARY MATTERS IN CAIRO.

CAIRO has become so popular as a winter resort that on that ground alone every care should be taken by the authorities to ensure that its sanitary arrangements are above suspicion. The death-rate in Cairo is at present notoriously high, even for a town situated as it is on the fringe of the desert.

Calculated on the 1907 census, the death-rate for 1908 was 39.23 per 1,000, and for 1909 44.9 per 1,000. The infantile mortality-rate was in 1908 282 per 1,000 born, while the rate for children under 16 years of age was 71 per 1,000. From these figures it will be seen that 28.2 per cent. of the infants born in Cairo die during the first year of life; and 48.5 per cent., or nearly one-half, of the children born will, if the present death-rate continues, die before they reach the age of 16 years. Although it is hardly a fair comparison, the death-rate for England and Wales might be instanced: in 1908 it was 14.7 per 1,000, and the infantile mortality 121 per 1,000. Cairo has a hot climate, and this might be adduced as a reason for the high mortality; but although this may be a factor in accounting for a high death-rate there must be other causes at work.

In Panama, Rio de Janeiro, and even on the West Coast of Africa, which had in the past a high mortality-rate, the rate has under improved sanitary conditions been very perceptibly lowered, in some respects very remarkably. The death-rate of Cairo during the past ten years has shown no like improvement—in fact, it would appear to have gradually increased.

The time would seem, therefore, to have come when an inquiry should be instituted into the prevailing diseases, so that an estimate may be formed of the influence of each on the excessive death-rate. The difficulties in the way of obtaining exact information may be great. Enough seems to be known about some of them to justify the necessary expenditure for preventive measures. Of some of the diseases occurring in Cairo little or nothing is known, except that they are diseases which destroy life; and until their causes, and the exact way in which these causes are conveyed from one person to another—in fact, their whole natural history—is known, effective methods for their prevention cannot be devised or carried out. It is clear, therefore, that the Government should without delay cause researches to be undertaken by an adequate scientific staff with the view to the discovery of the mode of the transmission and the causes of many of those diseases the etiology and history of which little is understood.

A sanitary organization is indispensable for the prevention of disease, for it is essential in order that those diseases of which the natural history is already known may be prevented; and, therefore, it is probable that it will also be required for those affections of which little is known at present, but whose natural history will become known as research progresses.

An improved sanitary organization will also be necessary for the ultimate care of those sanitary works—such as drainage—which are now in progress, or about to be begun, in Cairo. To it should be entrusted the duty of making a periodical examination of the city to obtain information as to the prevalence of disease, so that the results of the preventive measures, and of the major sanitary works may be ascertained and the expenditure on them watched.

DEATH REGISTRATION.

In Cairo at the present time death registration is in a very unsatisfactory state. In only 27 per cent. of all deaths is the cause certified by qualified medical men who have treated the deceased before death. This means that 73 per cent. of the total deaths occur without previous treatment by doctors, and, although in such cases the corpses are viewed by a Government doctor or midwife, it is impossible in this way to obtain in the majority of cases any accurate information as to the real cause of death. Death certification is the rule in the case of Europeans, but among natives the rule seems to be that the death occurs without medical attendance, or, at all events, without any certificate from a doctor qualified to practise medicine in Egypt. It is even doubtful whether all deaths are registered, although the decree of June 9th, 1891, requires the relatives to register any death which occurs at the nearest public health office, and now, in the case of foreign subjects, at the Consulates also.

BIRTH REGISTRATION.

Birth registration in Cairo, as in other parts of Egypt, is incomplete. The decree of June 9th, 1891, requires the parents to register at the nearest public health office the birth of every child born in the city; but Europeans do not obey, and it seems impossible to compel them. As the various Consulates—doubtless acting under instructions from their superiors—seem disinclined to enforce their own laws concerning birth registration, the Egyptian Government is unable to insist upon it. In consequence the majority of European infants escape vaccination, and there is an epidemic of small-pox in Cairo among Europeans every nine years. It also completely vitiates all statistics of the birth-rate and other figures of economic importance in Egypt.

INFANTILE MORTALITY.

The census taken in April, 1907, enumerated a total population in Cairo of 654,476. Of this number, 25,754 were infants under 1 year of age. But the number of births registered during that year was 28,350, excluding the majority of European births which were not registered. The average infantile mortality in Cairo during the past eight years was 300 per 1,000 births. During 1908 it was 282.

An examination of the annual curve of the infantile mortality shows that it is highest during the early summer months, and that it is related to the humidity. Last year the general death-rate reached the astonishing figure of 105 per 1,000. There was a sudden heat wave and great atmospheric dryness, and children died of diarrhoea by hundreds. Of 3016 infants under 1 year of age who died in Cairo during June and July, 1909:

1,179, or 39 per cent., died of diarrhoea.
625, or 20 per cent., died of marasmus.
79, or 2 per cent., died of measles.

The chief causes of infantile mortality under 1 year of age appear to be infantile diarrhoea, marasmus, inherited syphilis, and measles. Records of 74,281 persons under 16 years of age in Cairo living and dead were in 1908 obtained for two years, and the prevailing diseases which caused the excessive death-rate were in order of incidence: infantile diarrhoea, marasmus and rickets, measles and bronchitis, inherited syphilis. Among older children there prevail three diseases causing fever, anaemia, enlargement of the spleen, sometimes wasting, ascites, and death—they are endemic cirrhosis, malaria, and ankylostomiasis. Endemic cirrhosis of the liver is said to cause death in 4.5 per cent. of the people; the incidence of malaria varies with the locality and other factors. There is also a high "zymotic" death-rate, and tuberculosis is very common. But the diseases mentioned above are the common causes of the excessive death-rate in childhood when the excess is most marked. During adult life tuberculosis, typhoid fever, small-pox, typhus fever, and dysentery occur frequently in Cairo, and seem to be intensified by the insanitation. Cancer is also prevalent as in other parts of the world. Diphtheria is common, while scarlet fever is almost unknown. Endemic cirrhosis of the liver, as it occurs in Cairo, has been described by Drs. Day and Fergusson, of the Cairo medical school, in the *Annals of Tropical Medicine* for November, 1909. They note that 4 per cent. of the admissions to the Kasr-el-Aini Hospital suffer from ascites due to hepatic cirrhosis, compared with 0 9 per cent. in the large London hospitals. The alcoholic cirrhosis is very rare in Egypt. Out of a total of 300 patients (natives) admitted to the surgical and eye departments of the hospital, 8 per cent. had chronic splenic enlargements; 3.3 per cent. had enlargement of both liver and spleen; and 2.3 per cent. had definite cirrhosis with enlarged spleen. The existence of this condition, in which hepatic cirrhosis is accompanied with splenomegaly, complicates the regular examination of children for malaria. Drs. Day and Fergusson describe the symptoms of this disease, but as nothing is known yet of its mode of transmission, further research is required before any attempt to prevent it can be undertaken. Possibly it stands in some relation to kala-azar, which is known to exist in parts of the Soudan. Fergusson gives his reasons categorically for distinguishing the two diseases, but it is interesting to note that Nicholle, in the *Archives de l'Institut Pasteur de Tunis*, February, 1908, stated that in a disease existing in Northern Africa, affecting children, producing prolonged fever, intense blood changes, with enlargement of liver and spleen, he found parisites similar to those of kala-azar.

The diseases mentioned are some of those which cause the excessive death-rate in Cairo, and it is clearly the duty of the Government to institute researches into their etiology and prophylaxis. The experience of other tropical and subtropical countries suggests that the first step should be the appointment of a scientific commission, and the Egyptian Government has already in Cairo, in its service, a number of highly trained medical men, veterinary surgeons, and others, who are skilled in scientific research. The commissioners should select the subjects to be investigated and determine the mode in which the researches should be conducted.

THE WATER SUPPLY.

But with regard to certain other diseases, knowledge of their etiology and experience of the effect of prophylactic measures taken in places where conditions are not very dissimilar from those existing in Cairo is sufficient to warrant the Government in acting without further delay.

The water supply of Cairo has long been a cause of difficulty; it is derived partly from the Nile and partly from certain wells sunk at a short distance from the Nile, at Rod-el-Farag, which is a little below Old Cairo. In consequence of numerous complaints as to the hardness of the water supplied from the wells at Rod-el-Farag, and of the strong preference of the native population for water taken directly from the Nile, the Government appointed a Commission consisting of Dr. A. C. Houston, Director of Water Examinations, Metropolitan Water Board of London, Dr. Dienert, who holds a similar position in Paris, and Professor Gaertner, Director of the Institute of Hygiene in the University of Jena. The report of the Commissioners, who were only able to spend a short time in Cairo, called attention to the fact that the filtration and other purification processes applied to the water of the Nile at the waterworks of Abassia and Ghizeh were not kept under proper scientific control, and expressed the opinion that the liability of Nile water to become specifically infected with the excreta of persons suffering from typhoid fever and cholera was a constant source of danger. The Commissioners advised that no water, whether derived from wells or river, should be supplied to Cairo which had not been brought by processes natural or artificial into a state of undoubted purity. They found from records and the results of their own experiments that the water from the wells at Rod-el-Farag was a very much safer source of supply from the epidemiological point of view than the artificially filtered Nile water. Though the water is no doubt derived from the Nile, the purification is carried out naturally, and is independent of the success of any artificial treatment. They added that they did not know of any example of water distributed in any part of the world in which the hardness, ammonia, organic matter, iron, manganese, and crenothrix, in the amounts present in the Rod-el-Farag water had proved in any way injurious to health. The presence of iron and manganese in this water would appear to be a real difficulty, and its hardness is disliked by the native population. Sir Eldon Gorst, in his report as Agent and Consul-General for 1908, stated that a simple and efficient method of removing the iron and manganese from the water had been evolved as the result of laboratory experiments, and had proved entirely satisfactory on a larger scale. The objection, however, still remained that the water was much harder than that taken directly from the Nile, and the desired standard of water "approximate in character to that of the Nile" did not seem possible of attainment.

Another commission consisting of Anis Pasha, Mr. Webb, Lord Edward Cecil, and the present Director-General of the Public Health Department, was appointed, and is understood to have recommended the abandonment of the Rod-el-Farag source and resort to the Nile. To carry out this recommendation three schemes have been propounded: the first is to take water from the Nile some seven miles above Cairo, the second to take it from the river immediately above Cairo, and the third is to take it from the Nile at Bulak, below Cairo, after the river has passed through the whole town and has received the waters of the old Ismailia canal (which really serves as a drain, since it receives rain water from the streets), after the river has

received the scourings of Bulak, and after it has been contaminated by the refuse and excreta from the steamers, cargo boats, and river vessels which congregate at that place.

In these circumstances it will be learnt with some surprise that the Government is understood to be in favour of the third scheme, the reason apparently being that the existence of the pumping station at Rod-el-Farag will save, at any rate for the moment, the expenditure which would be involved in erecting a new station above Cairo, and mains from it to the city. Early this year a draft agreement with the Cairo Water Company for drawing the water supply of the city from the Nile near Rod-el-Farag was under consideration by the Council of Ministers, but no decision was then taken. It is understood that the water pumped from the Nile would be filtered at Rod-el Farag, and that the Director-General of the Public Health Department has recommended the adoption of filters of the Jewel type, estimated to cost £E. 140,000.

Filters of this type have been introduced in connexion with the water supply of Alexandria. Before this method of filtration was adopted in that city the water was purified by a system of slow sand filtration, two large settling tanks, containing one day's supply, or about 7,000,000 gallons, together with twelve filter beds, each 1,436 square yards in area, being in use. In 1902 the municipality of Alexandria accepted an offer of the Jewel Filter Company of New York to instal, free of cost, a complete Jewel gravity experimental filter plant, with all accessories, capable of dealing with a minimum of 22,000 imperial gallons a day. The system is one for rapid filtration combined with chemical clarification produced by applying to the raw water a coagulant, generally sulphate of alumina. Carbonate of lime contained in the water changes this into hydrate of alumina and sulphate of lime, at the same time liberating carbonic acid. The hydrate of alumina, which is precipitated in loose flakes, fulfils a twofold office. In the first place it carries down with it the suspended particles in the subsidence tanks, and, in the second place, part of the hydrate of alumina passes to the filter bed and aids to form a filtering scum. After this chemical treatment the water is passed rapidly through sand filter beds, of relatively small surface, formed in wooden or steel tanks, which can be rapidly cleaned by special mechanical apparatus. Dr. H. Bitter, Director of the Egyptian State Institute of Hygiene, Cairo, made a series of experiments on the efficiency of the Jewel Filter Works at Alexandria. His conclusions as regards *clarification* were that the results obtained during the whole time the experiments were carried on were excellent, and not only equalled those obtained by the best English filter beds, but were even superior to them in the absolute constancy and regularity with which they were obtained. Regarding the result of the *bacteriological* experiments, Dr. Bitter came to the conclusion that the bacteriological purification of drinking water by the Jewel filter is not only equal to the old English sand filter beds, but distinctly superior to them. From a hygienic point of view, the application of sulphate of alumina might be objected to. The only substance that could possibly be detrimental to health is the alumina, which forms only about 20 per cent. of the sulphate of alumina. Such small amounts of alumina may, however, be found in many waters considered unobjectionable for drinking purposes, especially in mineral waters. In addition to the tests employed by Dr. Bitter, Dr. Schreiber, Scientific Member of the Royal Institution of Prussia for the Investigation of Water Supply and Drainage, carried out experiments in connexion with a Jewel filter erected at the Berlin waterworks near Lake Müggel. He came to the same conclusion as Dr. Bitter with regard to the action of rapid filtration in purifying water. He says: "Summing up the results of tests, we may say that, bacteriologically, rapid filtration by means of the Jewel filter is equally as efficient as slow sand filtration, provided that the operation of the plant is correctly adapted to the existing conditions; and in the removal of turbidity and colour the Jewel filter is distinctly superior to the old system."

Flies and Mosquitos.

One prophylactic measure which might confidently be expected to have a considerable general effect in preventing the dissemination of such diseases as infantile diarrhœa, typhoid fever, dysentery, and ophthalmia, could be immediately undertaken, for Cairo suffers at certain seasons of the year a plague of flies, and all these diseases are conveyed by flies. Malaria and some of the other fevers prevalent in Cairo are conveyed by mosquitos, and the results of the experiments carried out in Cairo, Ismailia, and Port Said show that the reduction of mosquitos is an easy matter in Egypt if proper methods are adopted. Those which proved successful at Port Said should be followed in Cairo. It should be publicly announced that a crusade against mosquitos would be instituted in Cairo by the Government, and the methods to be followed indicated. It would be a popular measure, and, if the inhabitants of the city were not asked to pay for it, would arouse no opposition.

The duties of the inspectors should be clearly stated, the reasons of their weekly visits stated, and explanations given as to the diseases conveyed by mosquitos and flies, and of the habits of these insects. These inspections must of course be thorough, and the inspectors should enter every house in the town, inspect the cesspools for mosquitos, and examine the gardens for water collection likely to harbour these insects. It would be their duty to draw the attention of house owners and tenants to collections of manure in stables and cowsheds where flies may breed. After a little training these men should be able to report insanitary dwellings and establishments to the Public Health Department, which might then attempt to persuade the owners of such places to institute reforms. There may be some difficulty at first, as according to the domicile clause of the Capitulations Government servants are not allowed to enter private houses in Egypt, whether occupied by Europeans or natives, and if the Egyptian Government were to apply to the various Consulates for permission to allow its agents to enter the houses of foreign subjects for the purpose of discovering insanitary conditions and enforcing the irritating regulations prescribed by the existing laws, possibly a refusal would result. If, however, the Consuls were approached in a conciliatory manner, they would doubtless consent to allow the weekly visit of the inspectors into the compounds of the houses. If the inhabitants of the town were in favour of the movement, the Consuls would not seriously oppose it.

Sanitary Laws.

As at present administered, the sanitary laws in Egypt are for practical purposes of very little value. Since the decree of June 9th, 1891, requiring the registration of births and deaths is not enforced, it should be amended by a statute controlling cemeteries in Cairo and enforcing the proper registration of births, deaths, and marriages among foreign and native subjects alike.

The law controlling unhealthy trades and establishments, factories, etc., is clumsy, giving rise to many irritating petty regulations, and is a source of annoyance to traders. It should be replaced by a general building law which would control all buildings alike, such as that recently passed in the Soudan. The erection of any building, hut, house, shop, or factory should be prohibited until the plans had been passed by the local engineers and health officers. There are decrees concerning the registration of doctors, dentists, and chemists, but much illicit practice goes on and is difficult to control; this law requires amending.

There is a law which directs the proprietors of houses to empty all cesspools when required by the sanitary authority after notice. This law is almost useless, because, first, the sanitary authority has not the right, without tiresome formality, to enter any house to see whether the cesspool is full or not; and, secondly, because if a tenant does complain of a full cesspool, the condition must continue for eight days after the notice has been served on the proprietor, and in the meantime the cesspool may overflow into the street, or into the garden, or into the cellars of the adjoining houses. Then the fine imposed is only a few piastres, while the cost of emptying the cesspool is about £5. It is much cheaper for the proprietor of the cesspool to continue paying the fine than to abate the nuisance.

As it is evident that sanitary law in Egypt requires considerable amendment, a legal commission should be

appointed to draft a complete code or make the necessary alterations in the existing law. The sanitary and municipal laws thus drafted should be submitted to the local diplomatic agents for their suggestions and support before any attempt was made to approach the governing powers through the British Foreign Office. The English and French sanitary laws should be the basis worked upon, and good sanitary laws will produce little opposition if an endeavour is made to render them popular. All petty and irritating regulations should be avoided as far as possible.

Sanitary Organization in Cairo.

For administrative purposes Cairo is divided into fifteen districts or *kisms*. In each of these there is a public health office with the following staff: one native doctor, one clerk, one midwife, two orderlies. The doctor is registrar of births and deaths, sanitary inspector, police doctor and medico-legal expert in the courts, private practitioner, and dispenser. The average pay is £13 a month. As the average population of each *kism* in Cairo is, according to the recent census, 54,539, it will be seen that this staff is quite insufficient for its duties; as the average pay of the doctor is so low, it is obvious that he must do a considerable amount of private practice in order to live. In consequence the public health work suffers, and it may be said that the amount of sanitary work being done in Cairo is practically *nil*.

The sanitary service in Cairo is under the Director-General of the Public Health Department, and he appoints one of his junior medical staff as "sanitary inspector" of the city. This officer has one native doctor as his assistant and seven clerks and four orderlies; he reports all matters to the director-general.

It will be seen that the present sanitary staff in Cairo is insufficient to enforce the existing laws. At present the sum expended on public health comes to about 1.5 piastres, or 3½d. per head of population. For such a sum it is clearly impossible to undertake serious public health work in a large city in a country where the habits of the natives are the reverse of sanitary, and the standard of education low.

It is evident that some better system is required. By a process of decentralization the whole of the public health work should be placed under a medical officer of health and his assistants. The veterinary surgeon in charge of Cairo districts should be attached to his office, as veterinary work is closely connected with public health work. The medical officer of health should be placed under the Governor of Cairo, and stand to him in a relation similar to that of the commandant of police. The scavenging and watering service and the Cairo branch of the Buildings Department should be placed in a similar position.

In the office of the medical officer of health there should be at least two native assistant medical officers; one to assist in public health matters and to act as chief of the district health officers, and the other to be the chief of the police doctors, and in charge of medico-legal work.

With regard to sanitary work proper, the first important step is to obtain the whole time of the doctors as district health officers. They should receive salaries which would make them independent of private practice. The next step would be the appointment of inspectors of nuisances under the district health officers. Each *kism* should have one or more of these inspectors, whose work would be to inspect the *kisms* every week, reporting any defects in public health matters; he would take his orders from the district health officers. The district health officer, in addition to attending the local health offices for the purpose of registering births and deaths, would take more care in the vaccination of all infants. He would have more time for the examination of those deaths which are uncertified. He would keep under careful observation each case of infectious disease which occurs in the district and is not sent to the infectious hospital. He should visit the houses where children have been newly born and see that the midwives advise the mothers as to the rearing of the children. He would receive every day the reports of the inspectors of nuisances, and would attend to all complaints, and one of his important duties would be the examination of school children. He would also inspect dairies, cowsheds, and unhealthy establishments mentioned in the decree relating to them, and all shops where articles of food are exposed for sale or in store.

All insanitary conditions reported by the sanitary inspectors would be dealt with by the health officers, and not by the inspectors themselves.

Expenditure.

This addition to the sanitary staff would, of course, mean increased expenditure. At present the amount spent is only £9,791 a year, while under the scheme detailed above a sum of about £15,000 would be required—an increase of, say, £5,000. If a mosquito crusade were instituted additional money would be required, varying from £12,000 to £15,000 per annum. It would not be possible to exterminate either flies or mosquitos for this annual expenditure, but they would be considerably reduced. The cost of the whole sanitary budget would be about 4 piastres a head of population instead of 2½ piastres as at present; this increase would not be excessive if better public health is obtained thereby.

Cairo cannot be made healthy for even £27,000 a year; the cleansing of Panama and Rio de Janeiro involved the expenditure of millions, and without doubt to do the like for Cairo would cost a large sum.

Egypt cannot afford another large sum at the present time for Cairo improvements. The Cairo citizen is not taxed heavily—taxation is controlled by the Great Powers, and increased taxes may not be levied—but it is a rich town, and there is little real poverty.

The native in Cairo can always get enough to eat and drink, and the beggars which are seen during the tourist season are members of an ancient Eastern profession. It is a pity that the Cairo citizen cannot be taxed more than he is; but he complains of the cost of living, which is great, and the Powers listen to him and disregard the fact that he lives extravagantly. At the present, therefore, it may be necessary to make the most of a small sum, but in any case reform must for other reasons be gradual. Cairo is an Eastern city, and civilization marches slowly in the East.

MORTALITY FROM CONSUMPTION IN DUSTY TRADES.

Of modern statisticians dealing with the subject of the incidence of disease and accident, their causation and relation to workmen's compensation, no man has brought to bear upon the interpretation of data gathered from all sources greater breadth of opinion or wider knowledge than Mr. Frederick L. Hoffman, Statistician to the Prudential Insurance Company, Newark, New Jersey. In the *Bulletin of Labour*, No. 79,[1] he has collected practically all that is known of the mortality from pulmonary consumption in dusty occupations. Few persons will deny that the pollution of the atmosphere by organic and inorganic dust is the cause of frequent ill-health and of premature mortality of workmen in certain occupations. The statistical data from which Hoffman has drawn his facts have been obtained in the United States, and compared with the statistics in the reports of the Registrars-General of England and Wales and Scotland. Of the different methods employed to obtain with approximate accuracy the degree of "consumption frequency" in different trades, that regarded by Hoffman as the most satisfactory is known as the "proportionate mortality figure, by which the proportion of deaths from any particular disease, such as consumption, is calculated as a percentage of the deaths from all causes occurring during specified periods of life." The Prudential Insurance Company of America has had an unusually large experience of industrial insurance mortality statistics. Hoffman deals with the material ready to hand, and gives the following as an illustration of proportional mortality figures:

At ages 25 to 34, out of every 100 deaths from all causes in the registration area of the United States during the seven years ending 1906, 31.3 deaths were from consumption. The corresponding proportions of deaths in the industrial insurance mortality experience were 70.8 per cent. for grinders, 66.7 per cent. for compositors, 58.5 per cent. for upholsterers, 52.9 per cent. for potters. The difference between the normal proportionate consumption mortality for the registration area as a whole and the corresponding proportionate mortality from consumption in the different occupations, considered in detail, measure approximately the health-injurious circumstances of the different occupations.

[1] Mortality from Consumption in Dusty Trades. By Frederick L. Hoffman. *Bulletin of the Bureau of Labour*. Washington Government Printing Office.

In occupations exposing the workpeople to metallic dust, such as grinding and polishing, the death-rate from all causes is excessive, but particularly in regard to phthisis and respiratory diseases generally, the degree of consumption frequency being intimately related and almost exactly proportional to the extent of exposure to the continuous inhalation of metallic dust. Metal grinding is therefore one of the most injurious trades viewed from this standpoint. The conditions under which this trade is carried on are said to be better in the United States than in England. A comparison is made, for example, between the deaths from pulmonary consumption in the Sheffield grinders and those in the United States, but the data in America are too few for accurate deductions. In both countries the industry is extremely unhealthy, judging from the high consumption mortality between the ages of 25 and 34. Metal polishers equally exhibit a high death-rate from phthisis and diseases of the respiratory organs. Printers—owing to the closeness of the workrooms, the overheated atmosphere, and the presence of dust—are also prone to phthisis. Few persons deny that dust, even the cleanest dust without accompanying bacteria, by irritating the mucous membrane of the bronchi and the epithelial lining of the pulmonary alveoli predisposes to tuberculosis, a circumstance which makes it difficult to say how much is due to one or the other.

The liability of potters to phthisis is fully discussed. In foundry men and metal moulders there is a high mortality from pulmonary consumption; but the fact that it occurs at a later age period than in most trades suggests that the progress of the disease is slow, and that the phthisis tends to assume the fibrotic type. Workers in the cotton and textile trades generally suffer from the pulmonary effects of inhaling vegetable dust. Scanning the tables in the report it is the same sad state of things which is revealed throughout—namely, far too large a percentage of deaths in the early years of a workman's life. In some respects the conditions of labour in the cotton mills of the United States are superior to those in Great Britain. This would appear to be the case with the "sizing" of cotton. In the United States, starch, sago, or some vegetable compound is used instead of china clay, occasionally used in this country. Estimating the wage earning population (males and females) of the United States above the age of 15 at 31,768,943 for 1908, the number of deaths from pulmonary consumption among wage-earners would be approximately 69,892. Hoffman is very hopeful that by means of intelligent factory inspection and control, as well as by better ventilation, the consumption mortality figure will improve. Placing "the economic value or net result of a year's lifetime at only 200 dols., the total average economic gain to the nation would be 3,080 dols. for every avoidable death of a wage-earner from consumption, representing the enormous total of 68,493,000 dols. as the aggregate annual financial value in the probable saving in years of adult human life." With the possibilities of even approximately attaining such a desirable result, individuals as well as nations ought to do their utmost to remove a plague which is a blot upon civilization and the industrial development of our time.

LITERARY NOTES.

To many of its readers doubtless the most attractive feature of the March number of *L'Hygiène* will be the very interesting account of the "Oeuvre Grancher," by Dr. Emile Roux and Dr. P. Armand-Delille, in which the president and secretary of the "Oeuvre de préservation de l'enfance contre la tuberculose" describe the means now employed in France to prevent the spread of consumption. The honour of initiating this method of dealing with phthisis is due to the late Professor Grancher; and France owes a big debt of gratitude to the man who has taught her how to make a stand against the disease which has wrought such deadly havoc among her children. This brief sketch shows very clearly the inestimable value of Grancher's work and the benefit which his countrymen have derived from it already. Thoroughly convinced that consumption is due to contagion, not heredity, Grancher adopted Pasteur's principle, "save the seed," and applied it to the human race. To this end he founded the "Oeuvre de préservation de l'enfance contre la tuberculose," which continues strenuously to carry his ideas into practice. This scheme is a very simple one, and consists merely in preserving the untainted children of consumptive parents from any chance of contracting the disease. With this object in view, the children of the Paris slums, between the ages of 3 and 10, who belong to phthisical families, but who are as yet free from tuberculous symptoms, are sent into the country, and boarded out, at the expense of the society, among peasants of guaranteed health and respectability. Here they remain, under constant medical supervision, during the whole of their school life, that is to say, up to the age of 13, and frequently longer. Every care is taken to ensure both the physical and moral well-being of the little patients, and the success of the treatment is testified in a striking manner by the fact that out of the 800 children rescued in this way from disease and death, not one has developed the smallest symptom of consumption, whilst the improvement in health of mind and body has been most marked in almost every case. Grancher's work is equally successful in another direction. Besides lightening the load of human misery by exterminating disease, it offers a solution for one of the most pressing problems of the present day—namely, the overcrowding of the towns and consequent depopulation of the country. For very many of the children who by its means have been given a good start in life, when the time comes for them to make the choice, elect to remain in the country, to grow up healthy peasants, such as make efficient citizens and form the backbone of a nation. The interest of this excellent article is enhanced further by the photographs with which it is illustrated. There are portraits of Professor Grancher and his widow, the widow and daughter of Pasteur, Madame M. de Fleury, Madame E. Calmettes, together with other ladies who take part in the work of salvation, and several charming groups of the children under treatment with their country hosts. Amidst so much that is good in this excellent periodical it is difficult to select anything for special notice, but mention must be made of Pierre Mille's delightful article on *Cuisines exotiques*, in which the author gives an account of his gastronomic experiences in Madagascar. There is also a short article on the *Ville nouvelle* which has been built between Dieppe and Tréport, with some pretty views of the little town, and a charming sketch by Madame Moll-Weoss of the late M. Emile Cheysson. The pictures are, as usual, beyond praise.

We find the following extract from an old minute book in the March number of the *St. Thomas's Hospital Gazette*:

5 Aug., 1767.

Mr. Marsh having informed this Court of the Iron Bedsteads having been put up in two of the Wards of this Hospital in consequence of a voluntary subscription generously set on foot by some of the Governors and of the Beneficial effects they had produced by greatly alleviating the terrible Inconvenience the Patients suffered from the Bugs and of the subscription for extending that salutary plan which had been just made in the Grand Committee, and having received a further subscription for this usefull charity in order that if possible a fund might be raised for supplying all the other wards with such iron bedsteads . . . .

In connexion with this extract it is interesting to note that in a letter from Florence dated April 28th, 1766, Samuel Sharp wrote:

I am much pleased with the contrivance used in the great hospital here to avoid bugs; it is no other than a plain bedstead of iron, made so simple, that there is not a crevice where a bug can conceal itself. I remember that there have been attempts of this kind made in England, but they have proved ineffectual, because they fastened ticking to the frame, with oilet-holes, and cording, which afforded some harbour to these animals. In this hospital they only lay across the frame about four or five boards, a little longer than the width of the frame, and about a foot broad, upon which they lay the bedding; these are movable, and, if necessary, may be brushed when the bed is made, as easily, and in as short a time, as a man brushes his hat. In the hospitals at London, bugs are frequently a greater evil to the patient than the malady for which he seeks an hospital; and, could I have interest enough with the governors, to bring about an imitation of this frame, I should be exceedingly rejoiced in the comfort it will afford to so many thousands of miserable wretches, that are tormented sometimes even to death, by these nauseous vermin.

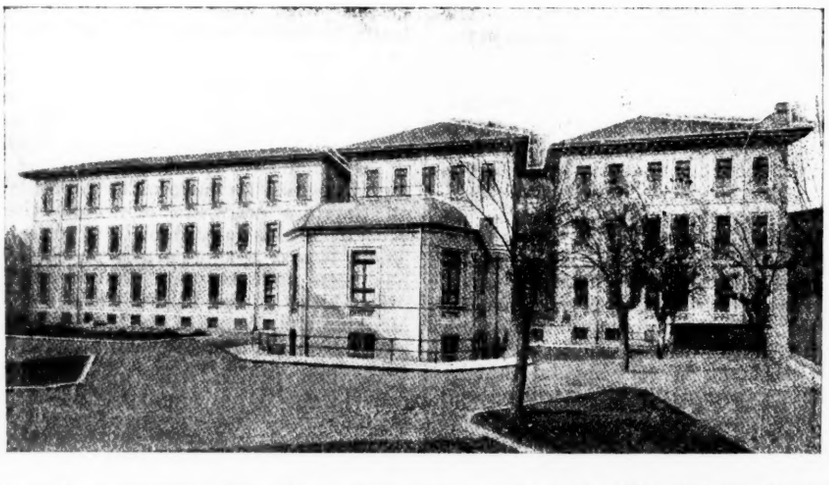
Sharp was a pupil of Cheselden, and was surgeon to Guy's Hospital from 1733 till 1757. In 1765 he visited Italy, and recorded his observations in racy language in his

Letters from Italy describing the Customs and Manners of the Country in the Years 1765 and 1766. Bugs seem to have been one of the common objects of the hospital bed in the eighteenth century, for in Mr. E. W. Morris's fascinating *History of the London Hospital*, recently published, it is related that in 1749, when Dr. John Sylvester was appointed physician to that institution, all he could say with regard to his future work, and returning thanks for his election, was "that he hoped to acquaint the apothecary with a remedy for killing bugs"!

THE CLINICAL INSTITUTE FOR THE STUDY OF DISEASES OF OCCUPATION, MILAN.

On March 20th the Clinica del Lavoro in Milan, the first institution in the world set aside for the study of diseases of occupation, was opened with considerable ceremony. It is fitting that this new departure should have been made in Italy, for it was Ramuzzini who over two centuries ago wrote the first textbook upon the subject, and who therefore may be regarded as the pioneer of industrial hygiene. Since the day in which the gifted professor of medicine of Modena gave to the world his experience, the cause for which he strove has made considerable progress.

The opening ceremony was not unworthy of the occasion. In the absence of the Sindago, the Chief Magistrate of the city through illness, his duty was taken by his deputy. Bishops, delegates of the Italian Government, including the Minister of War; Professor Langlois, delegate of the French Government; Professor Rambusck of Prague, representing Bohemia; and Professor Brazine, of Vienna; several professors of the University of Pavia, Maragliani of Genoa; Bozzoli, Perroncito, and Foa, of Turin; and the professors of the institute lent the influence of their presence to the occasion. Britain was not represented at the inaugural ceremony, but since then the institute has been visited by a few American and English scientists, including Dr. Sambon of London, and Sir Thomas Oliver of Newcastle-upon-Tyne.



The Milanese have erected a very handsome building for the scientific study of the causes of industrial diseases. The institute, which is adjacent to that of gynaecology, is well equipped with the most modern instruments of physiological research. Part of the building is set aside for the treatment of out-patients. This contains consulting rooms, secretion rooms, and others set aside for electrical purposes, including the use of *x* rays. There are two sets of wards on each of the three floors. At present it is only proposed to occupy 24 out of 70 to 80 beds owing to the shortness of that part of the summer session which remains. Every building looks attractive when new, but no one can visit the Clinica del Lavoro without being struck by the excellence of the arrangements made for the reception and treatment of patients. True to their proposed teaching, the sanitary earthenware throughout the building is all stamped "leadless glaze" and has come from England. One bath and two W.C.'s have been provided for each ten patients. The ventilation of the wards has received special attention.

There are chemical, bacteriological, and histological laboratories in charge of Drs. Preti, Monti, Bezzola, Boveri, and Bianchi. To Professor L. Devoto has been entrusted the direction generally of the teaching, while Professor C. Moreschi has been made head of the experimental and therapeutic department, including the diagnosis of disease. In Dr. L. Carozzi the institution is fortunate in having a capable and enthusiastic consulting physician upon whom will largely fall the duty of seeing patients on their arrival. An excellent lecture room, with screen for lantern purposes, provides accommodation for 110 students. The laboratories are extremely well equipped and in every sense of the word well up to date. The professors of the various departments are all, comparatively speaking, young men; each one is enthusiastic and sensible of the value of his appointment. The professors begin work under extremely favourable circumstances. The library is a large and well-proportioned room, towards the equipment of which and the supply of current medical literature the King of Italy has promised a handsome contribution.

The institute has arisen out of the gift of a private benefactor. But for this it would not have been built at present. The City of Milan supported the movement by large grants. The Savings Bank of Milan gave 80,000 lira (£3,200) for the equipment of the building with scientific apparatus. M. Bonacossa, the owner of the land, gave 20,000 lira (£800) to endow a bed in one of the wards.

The instruction proposed will be of the nature of that given in a post-graduate course of study. Medical men will attend from all parts of Italy, and during the next two months several Turkish doctors have intimated that they will take advantage of the opportunities of study offered. As Milan is a large city with a population of 600,000 and is the principal manufacturing town in Italy, there is no reason why foreigners of all nationalities should not visit Milan and attend the post-graduate course. Dr. Carozzi speaks English fluently and most of the other teachers French.

While Milan is the first city to erect a separate institute for the study of industrial diseases it is only right to add that the work had already been begun in Florence by Professor G. Pieraccini, who had devoted the greater part of his wards at the Hospital St. Maria Mora to the treatment of these cases. He has a most helpful and able co-operator in Dr. G. T. Giglioli, the lecturer on industrial diseases at the College in Florence. Both of these gentlemen are the authors of well-known works upon diseases of occupation, and at the present time they largely direct and influence current Italian thought upon questions relating to industrial hygiene and the social reform of the working classes.

We learn from the *New York Medical Journal* that in the message sent to Congress on April 9th, President Taft asked for an appropriation of 50,000 dollars for the establishment of a laboratory in which to conduct investigations into the causes of cancer, and transmitted the recommendations of the Secretary of Commerce and Labour, the Commissioner of Fisheries, and of Dr. N. E. Gaylord, Director of the New York State Cancer Laboratory, for an inquiry into the cause of cancer in fishes. The President said: "The very great importance of pursuing the investigation into the cause of cancer cannot be brought home to the congress or to the public more acutely than by inviting attention to the memorandum of Dr. Gaylord herewith. Progress in the prevention and treatment of human diseases has been marvellously aided by an investigation into the same diseases in those lower animals which are subject to them, and we have every reason to believe that a close investigation into the subject of cancer in fishes, which are frequently swept away by an epidemic of it, may give us light upon this dreadful human scourge."

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

THE TREMOL TREATMENT.

UNDER the general name of the "Tremol Treatment," medicines for the cure of "bad legs" are supplied by "The National College of Health, Limited, Eye, Ear, Throat, and Skin Institute, and Infirmary for Bad Legs," 208, Great Clowes Street, Broughton, Manchester, and an account is here given of the analysis of some of these.

An attempt to purchase the remedies through one of the usual channels for proprietary medicines only elicited an intimation that they were not sold in that way, but were supplied in accordance with particulars to be furnished of the case for which they were intended. An application to "The National College of Health" brought a "Diagnosis Form" to be filled up, with a letter stating that the fee for the full course of Tremol treatment is £2 2s. A publication was also sent, entitled *Good News about Bad Legs; or "Cures by the Cured,"* consisting of twelve pages of the size of an ordinary newspaper page, containing portraits of patients and letters, etc., about cases, as well as much printed matter about Tremol treatment and "Views of the National College of Health, Limited." Attached to the front page of this was a conspicuous separate slip, worded thus:

Important. The Board of Directors wish it to be distinctly understood that every Patient who undergoes the Tremol Treatment is under the direct supervision of a fully qualified Medical Man.

A few extracts from this publication will serve to indicate the methods of the National College of Health, Limited. The opening paragraphs have a curiously familiar ring, and might be paraphrased from the pamphlets of almost any quack-medicine maker; they are as follows:

For centuries Bad Legs have ranked with Cancer and Consumption as one of the diseases over which the power of man could not prevail. For generations thousands of sufferers have lived lives of misery, become thoroughly worn out, and have gone down to their graves before their time through sheer exhaustion: all human skill being powerless to save. Their resources exhausted, ignorant of any agent in Medicine or Nature competent to cure, it came to pass that the Medical Faculty were reduced to the expedient of ordering sufferers long periods of rest in bed. This in itself was a confession of failure and of no avail.

It has been computed that Bad Legs have caused more misery and suffering than all the wars ever undertaken by the world's rulers. And why? War is but an incident in a nation's history, but the evil of Bad Legs is ever present, ever constant, ever taking its toll of suffering humanity. In the face of all this, Medical Science fell back, helpless, baffled, and beaten.

At last, after years of scientific research, after thousands of painstaking experiments, the Tremol Method of Treatment was discovered, and the cure of Bad Legs, once for all, established and placed on a sure and scientific basis.

What modern Astronomy is to the old discredited Astrology, what Scientific Chemistry is to the Alchemy of olden times, even that and more is Tremol System of Treatment to all other so called treatments for Bad Legs. Other treatments are empirical, this Treatment is scientific; other treatments end in failure, this System cures to stay cured. Once again has Mother Nature yielded to patient scientific investigation one of her greatest secrets, the secret of how, by means of the Tremol System, to cure Bad Legs with certainty, with rapidity, scientifically, and with no possibility of failure.

Other extracts are:

Universally accepted as the one and only cure for Bad Legs, the Tremol System stands to-day before the world unchallenged and unrivalled. Men of science accept it. Medical men recommend it. The thinking public endorse it, and the thousands of happy men and women cured by it hail it with a delight words fail to express. . . .

As sure as day follows night, so certain is it that this new and great discovery will cure every case of Bad Leg to which it is applied.

Remember, in all our cases, this System of Treatment has had to begin where others have left off. Sufferers who apply to us for relief and cure are only those whom doctors have finished with, or on whom ointments have proved useless, lotions abortive, pills impotent, and blood mixtures futile.

These last two extracts scarcely seem to be in harmony with the announcement which is made rather conspicuously: "Incurable cases not accepted." On the back page appears in large letters:

There is no Guess-work. No Pain. No Experimenting. No Lying Up. No Operation. No Relapse. NO FAILURE. No matter how Difficult the Case may be. No matter what form it may have Assumed. No matter how many Doctors, Specialists, or Hospitals may have failed to help you. The Tremol Treatment, the New Therapeutic Discovery for Bad Legs, IS CERTAIN TO CURE YOU, AND MAY SAVE YOUR LIFE. No claims or statement is made that is not borne out by Facts and Living Witnesses.

A document was sent with the medicines, marked "Legal Guarantee to Cure." It is worded as follows:

We the National College of Health Limited hereby Agree and Undertake to refund on demand to you the whole of the money paid by you to us for our Treatment, if we fail to cure you after we have applied the Tremol Treatment for a reasonable length of time. This Guarantee is subject to the Conditions set forth on the back hereof.

Then follows a facsimile of the signature of the Governing Director; it is not decipherable with certainty, but might be "E. F. Guest."

The conditions set forth—in quite small type—on the back are as follows:

The Tremol Treatment is only devised to cure bad legs—but if a case is accepted by us for personal treatment, then unless otherwise agreed at the time, this guarantee holds good. To ensure the bona-fides of the patient it is necessary that within seven days of starting the Treatment you give notice in writing to us that you accept the offer contained in this guarantee, and in this respect time shall be of the essence of the contract. This guarantee only applies where the Treatment is personally applied by us. It will be readily understood that we cannot guarantee cures when we have no guarantee that our Treatment is properly applied. We must be the judges of what is a reasonable time. We give no warranties. Warranties may mean anything or nothing. We simply return the money paid to us while we are personally treating you as aforesaid, and this is the limit of our liability. Any dispute between you and us as to any claim under or upon this agreement or as to any question arising hereunder shall be determined by arbitration in accordance with the Arbitration Act, 1889.

Since this "Legal Guarantee to Cure" is sent with the medicines, the person receiving it would naturally suppose that it would apply to his case; and it is only on careful examination that it is discovered that (1) it only applies to cases where the treatment is "personally applied" by the company, and therefore not to a case where the medicine is sent out; (2) even in "personally" treated cases, it does not apply unless the patient gives notice in writing within seven days that he intends to insist on it; and (3) since the company is the sole judge of what is a "reasonable time" within which the cure is to be obtained they can insist on continuing the treatment (as long as the patient will pay for it) in any case in which a claim is made. Not even the most ignorant person could regard such a "guarantee" as of the slightest value if he understood the conditions. It would appear that it is not the "bona fides of the *patient*" that needs to be ensured.

The "Diagnosis Form" sent was as follows; the words in italics are the particulars of an imaginary case that were supplied:

1. Date.
2. Christian name.
3. Surname.
4. Male or Female. *F.*
5. Married or Single. *Widow.*
6. Full Address.

*7. What is your age? *53.*

8. What is your weight? *About* 12 *stone.*
9. What is your Occupation? *Housekeeper.*

*10. Is it your right leg, your left leg, or both your legs that are affected? *Right.*

11. How long has your Leg troubled you? *About a year.*
12. Does your Leg pain you? *Yes.*
13. Does the pain of your Leg keep you awake at night, or in any way interfere with your comfort. If so, fully explain in what way. (Describe the pain.) *There is a constant acute pain from the open wounds, and a great deal of itching as well; the irritation, in addition to the pain, often causes sleeplessness.*

*14. Is the portion of your Leg affected Itchy or Scaly? *Very itchy.*

15. Have you consulted any person? If so, who, how many, and what did each tell you and what did they advise? *No.*
16. Have you attended any hospital? If so, state which. *No.*
17. Have you ever received an injury to your leg? *It was broken* 20 *years ago.*

* Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1128; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005.

18. Is the pain worse when standing up or lying down? *Pain worse when standing; itching worse when lying.*

19. How did you first hear of the Tremol Treatment? *Thro' an acquaintance in Yorkshire.*

20. Name the various remedies you have tried, and the methods you have adopted to effect a cure and the effect each has had upon your leg? *At first cold water bandaging; recently zinc ointment. Practically no effect.*

*21. Are there any ulcers, wounds, or holes in your Right Leg, or is it a red itchy, or scaly patch only? *Three open wounds and a big red itching patch.*

*22. Are there any ulcers, wounds, or holes in your left leg, or is it a red itchy, or scaly patch only? *No.*

Don't fail to Reply to this.

*23. If there are ulcers, wounds, or holes, state how many, and the position and size of each, cut out on pieces of paper and send to us the sizes of the wounds or ulcers on each leg (N.B.—Be careful to distinguish the size of the wound or ulcer from the size of the surrounding redness or inflammation). *The three open wounds are each about ¼ inch across; they are about 2½ inches apart in an irregular triangle; they are in a red itching patch about 4 inches across, on the outer side of the leg about halfway down.*

24. Is there now, or has there ever been proud flesh in the wound? *No.*

*25. Are your bowels habitually costive or free? *Free.*

26. Have you ever suffered from a White Leg. *No.*

27. Did your Leg first begin to trouble you through a hurt, after confinement, or how? *It came on gradually without apparent cause, at first as a small itching red spot.*

28. Has your Doctor advised Rest? *Have not had a doctor.*

29. Have you rested, if so, has it done you any good? *Have rested a good deal, but it doesn't seem to make much difference.*

30. Have you spent much idle time trying to obtain a cure? *No.*

31. Has your leg ever been healed, if so, was it with Skin or with Scab? *Not since the wounds became raw.*

*32. At what portion of the leg is the breaking out? *On the outer side, about halfway down.*

33. Have you been growing worse lately? *Yes.*

*34. Is there much inflammation or fiery redness round the wound? *Yes.*

35. Have you Varicose Veins? If so, state extent, of how long standing, and what caused them? *No.*

*36. Please to give the names and addresses of any persons in your district or elsewhere, whom you may know to be suffering from Bad Leg. This information will be treated as strictly confidential and exclusively private.

Remarks.—Write on a separate piece of paper any facts relating to your case or conditions that have not been indicated by the above questions. Describe your case fully in your own words and all you have suffered and gone through, in short, give us a general history of your case.

This was sent with two guineas to "The National College of Health, Ltd." The medicines sent in return consisted of a bottle of "Tremol Blood Mixture," a bottle of "Tremol Lotion," a box of "Tremol Ointment," and a box of "Ointment No. 2," with two bandages. Two typed sheets of directions accompanied these, headed "Instructions for applying No. 14 course of Tremol Treatment." Each of the four preparations is priced separately at 11s, by post, 11s. 4d.

TREMOL BLOOD MIXTURE.

The bottle contained 8 fl. oz. It bore a printed label, and there was nothing on the label to suggest that it was in any way modified for the particular case for which it was intended. The directions on the label were the same as those given in the paragraph on the typed sheet, which was as follows:

HOW TO TAKE YOUR MEDICINE. It is absolutely necessary for you to take this Blood Mixture prescribed specially for your case, all the time your leg is being dressed with the other preparations. To obtain permanent results it is imperative to continue taking this medicine for your blood, for some time after your leg is well.

Directions:—Take one drachm (one small teaspoonful) morning and evening after your meals, in a wineglassful of water sweetened to taste with one or two lumps of sugar. We strongly advise you to use a Medicine measure instead of an ordinary teaspoon, so that the dose will accurately measure one drachm.

Analysis showed the mixture to contain calcium chloride, ferric chloride, small quantities of free hydrochloric acid and alcohol, peppermint water, and a preparation of a vegetable drug; the latter had a slight flavour of rhubarb, but showed no definite active principle and no characters by which it could be positively identified. The proportions of the definite ingredients were determined, and found to be as given in the following formula. A mixture prepared according to this formula agreed very well in regard to the vegetable drug, and perfectly in other respects.

Calcium chloride	224 grains
Solution of ferric chloride	300 minims
Dilute hydrochloric acid	200 ,,
Concentrated infusion of rhubarb (1–7)	100 ,,
Peppermint water	2 fl. oz.
Water ... ... to	8 ,,

A deposit slowly falls, from which the clear liquid is decanted.

Estimated cost of the ingredients, 1½d.

TREMOL LOTION.

The bottle contained 8¼ fl. oz.; it bore a printed label, and there was nothing on the label to suggest that it was in any way modified for the particular case for which it was intended. The directions on the typed sheet were the same as those on the label, as follows:

Dilute the Lotion with an equal quantity of water. Cut out a piece of Lint slightly larger than your Ulcer, so that the Lint will cover the surface of the Ulcer as completely as half-a-crown covers a shilling. After a thorough cleansing (see directions for so doing) well soak the Lint in the dilute Lotion for two or three minutes, and then apply to the Ulcer. You are not to apply the Lint containing the Lotion too wet, that is dripping, neither are you to squeeze it out too dry, just thoroughly moistened and on the wet side.

Analysis showed the liquid to consist of solution of chlorinated soda containing 2·9 per cent. of available chlorine (which is slightly above the minimum strength of the official solution) with the traces of impurities usually found in it.

Estimated cost of the liquid, 2d.

TREMOL OINTMENT.

This was in a wooden box containing 14½ oz.; it bore a typewritten label: "The Tremol Ointment. To be used as directed."

The directions on the typed sheet were as follows:

HOW YOU ARE TO APPLY TREMOL OINTMENT. Cut out a piece of soft lint slightly larger in circumference (about ½ in. larger all round) than the Lint on which the Tremol Lotion is applied. Spread the Ointment thickly on the plain surface, then place it on top of the Lint on which No. 2 Ointment is spread, but over the ulcer, and therefore covering the Lint which is soaked in the Lotion. You will therefore have over the Ulcer three layers of Lint. FIRST, Two layers of Lint containing Lotion. SECOND, The layer of Lint on which the Ointment No. 2 is spread, and covering the red and inflamed part. THIRD, The layer of Lint on which Tremol Ointment is spread and covering the portion where the Ulcer is situated. Therefore over the red inflamed part there is one layer only, that on which No. 2 ointment is spread, but over the Ulcer there are three. When you are dressing your leg do not remove Ointment No. 2 that adheres to the skin. Apply fresh dressing on the top of the adherent ointment.

Analysis showed the ointment to contain:

Prepared chalk	70.3 parts.
Soft paraffin	29.0 ,,
Yellowish-brown colouring matter	traces.

The colouring matter appeared to be one of the coal-tar dyes, but was not present in sufficient quantity for exact identification; the chalk contained the small quantities of impurities usually occurring in it. No other ingredient was found.

Estimated cost of the ingredients, 2½d.

OINTMENT No. 2.

This was in a wooden box containing 10½ oz.; it bore a type-written label, "Ointment No. 2. To be used as directed." The directions on the typed sheet were as follows:

HOW YOU ARE TO APPLY OINTMENT No. 2.—Cut out a piece of Lint large enough to cover the red and inflamed portion of your leg. On this spread pretty thickly the special Ointment labelled No. 2, and apply it; at the same time covering the Lint which is soaked in the Lotion.

Analysis showed the ointment to contain zinc oxide, a lead compound which appeared to be the carbonate, sodium benzoate, sodium acetate, water, lard, and a pink colouring matter which was evidently a coal-tar dye. No other substance was found. The quantities of the different ingredients were determined, and the results agreed with the following formula:

Zinc oxide	19.8 parts
Lead carbonate	3·5 ,,
Sodium benzoate	0·3 ,,
Sodium acetate	0.7 ,,
Water	9.6 ,,
Colouring matter	traces
Lard	to 100 parts.

Estimated cost of the ingredients, 7d.

OPHTHALMOLOGY AT OXFORD.

Advanced Lectures for Ophthalmic Surgeons.

A COURSE of advanced lectures for ophthalmic surgeons will be given at Oxford on July 11th, 12th, 13th, 14th, 15th, and 16th. The subjects are as follows:—July 11th: Mr. Walter Jessop, Differential diagnosis of the rarer disease of the fundus oculi; Mr. Priestley Smith, More recent work on the etiology and treatment of glaucoma; Mr. George Coats, On pathological changes and microscopical demonstrations thereon. July 12th: Dr. Hill Griffith, Some of the more obscure forms of cyclitis. Mr. George Coats, On pathological changes and microscopical demonstrations thereon. July 13th: Mr. Holmes Spicer, Some of the rarer forms of keratitis; Mr. Treacher Collins, On degeneration of the lens; Mr. George Coats, On pathological changes and microscopical demonstrations thereon. July 14th: Mr. J. B. Lawford, Some ocular tumours; Mr. Sydney Stephenson, More recent therapeutic agents; Mr. George Coats, On pathological changes and microscopical demonstrations thereon. July 15th: Mr. R. W. Doyne, Retinitis pigmentosa and family choroiditis; Dr. Risien Russell, Ocular symptoms in general disease; Mr. George Coats, On pathological changes and microscopical demonstrations thereon. July 16th: Mr. R. W. Doyne, "Eye" in sport; Mr. S. Mayou, Bacteriology of the conjunctival sac; Mr. Angus McNab, Bacteriology of ulceration of the cornea.

Post-Graduate Course.

The annual post-graduate course has been arranged from June 27th to July 8th. The main idea of the course is to demonstrate (on actual patients as far as possible) the whole range of ophthalmology, in order to make the reading of a text more profitable than can be the case when relying merely on pictures. The first part will be mainly devoted to demonstrating the practical examination of eye patients, the use of the ophthalmoscope, and the work of refraction. During the second part the work will be more specialized and the lectures delivered by various ophthalmic surgeons.

Diploma in Ophthalmology.

A diploma in ophthalmology is now granted by the University. The first examination for the diploma will be held in the third week of July of this year. Residence in Oxford is not required, but, amongst other things, certificates must be obtained that the candidate has satisfactorily followed out in the University of Oxford courses of instruction on the anatomy, physiology, and diseases of the eye. Arrangements are not yet completed for giving these courses of instruction as fully as it is intended they shall be given in the future. The course for anatomy and physiology extends over two months, that for diseases of the eye over three months, but the course of lectures in this subject will be given in the two months corresponding to those in which the physiological and anatomical lectures are delivered. The remaining month of clinical work can be kept at any other time.

Mr. Doyne has circulated the following letter among ophthalmic surgeons:

In connexion with the diploma there is now arranged at Oxford in the departments of Anatomy, Physiology, and Ophthalmology a course of instruction to take place during the eight weeks of the summer term. But apart from this, it is my desire to organize during this term annually a course of systematic instruction in ophthalmology that shall be the best of its kind. This year advanced lectures during one week have been arranged. I hope that before long a suitable fabric may be endowed and fitted with all the apparatus pertaining to ophthalmology for private study as well as systematic teaching.

The department does not propose to deal with clinical teaching; that is excellently done in various centres throughout the country, but it is hoped that the value of a place fitted with all the requirements for systematic teaching and study will be recognized as a valuable adjunct to what is of course the more important consideration, that of clinical work. There is not, I believe, at the present time in this country any such special provision, and it has to be sought abroad by those who require it.

Further, it is hoped that when funds permit of the employment of a skilled pathologist, the pathological work of those eye hospitals and departments which have not a pathologist of their own may be undertaken, and the specimens be prepared, examined, and returned with reports to the hospitals to which they belong. In this way a large amount of valuable pathological material which is now wasted may be utilized, and each hospital have its own museum. It may be remembered that the late Sir B. Sanderson was very much in favour of such an arrangement.

A great opportunity now presents itself, and I wish to be especially careful to avoid taking any step or doing anything in the matter that might be prejudicial to its success. Such a scheme cannot possibly succeed unless it receives the active support of the clinical teachers of the United Kingdom, and it is my desire to organize the generous support they may be disposed to give, more especially in the way of lectures. I shall be grateful for any advice or criticism, for I wish to support the English School of Ophthalmology, and in no sense to enter into competition with any of the excellent work that is being done.

Oxford Ophthalmological Congress.

The Congress this year will meet on Wednesday evening, July 20th. One hundred and fifty rooms will be available in Keble College for the first applicants, and will be allotted in order of application. The following are the members of the Council: Dr. Darier of Paris, Professor Dufour of Lausanne, Professor Greeff of Berlin, Dr. Wendell Reber of Philadelphia, Sir Anderson Critchett, Bart., Sir Henry Swanzy, Messrs. Brailey, Browne, Collins, Cross, Doyne, Lawson, Mackay, Priestley Smith, Ramsay, Sandford, Stephenson, Walker, Werner. Sir Anderson Critchett is Honorary Treasurer; Mr. R. W. Doyne, Master; and Mr. Sydney Stephenson, Honorary Secretary. About 120 names have already been received as foundation and original members of the Congress, and Mr. Sydney Stephenson, 33, Welbeck Street, W., will receive further names of original members until June 24th. There is no annual subscription, but half a guinea entrance fee and half a guinea on each occasion that a member shall attend the Congress. The programme of the Congress is not yet completed. It will be sent out later to those who have sent in their names for membership. The special features of the Congress will be operations for cataract and glaucoma. Operations will be performed by, amongst others, Professor Lagrange of Bordeaux, Professor Holth of Christiania, Professor Heine of Kiel, Colonel Herbert of Nottingham, who will each perform his operation for glaucoma. Sir Anderson Critchett will operate for cataract, and Major Gidney will perform the intracapsular cataract extraction practised by Major Smith. It is not proposed to have papers and discussions, but a series of demonstrations and exhibitions. Any one who would care to show something, give a demonstration, or perform some operation, should apply to the Master, who will make all arrangements for the purpose. In the case of an operation the surgeon should bring his own patient, who will be accommodated in the hospital.

THE Congress of French-speaking Psychiatrists and Neurologists will hold its twentieth meeting at Brussels and Liège this year from August 1st to 7th. The Congress is under the patronage of the Belgian and French Governments. The following are among the subjects to be discussed: Sleeping sickness and the various forms of narcolepsy; the systematization of skin lesions in mental and nervous diseases; alcoholism and criminality.

THE Calendar of the Hong Kong College of Medicine for the year 1910 contains a brief history of this institution It was established in October, 1887, its first dean being Dr. (now Sir) Patrick Manson. Most of the lecturers afford their services practically gratuitously. The curriculum lasts five years. Those who undergo the whole of it at Hong Kong have to undertake to serve the Government, if desired, during the whole or any part of the three years immediately following their graduation, in return for certain payments. Four scholarships are annually awarded. Seemingly all those who have so far received the licence of the school are Chinese. They number 39, of whom 3 are dead, 20 are in official or other practice in Hong Kong, 5 in China, 1 in Japan, 2 in Great Britain seeking degrees, and the remainder in Far Eastern colonies with Chinese populations. The school has at present no home of its own, building plans having been abandoned in 1907, when it was resolved to create a University of Hong Kong, and to incorporate the school therein. This project is now in process of realization. Meantime the work is carried on at the Princess Alice Hospital and other institutions in Hong Kong.

THE LEGAL RESPONSIBILITIES OF HOSPITAL AUTHORITIES.

A DISCUSSION on the legal responsibilities of hospital authorities towards their patients was opened at a meeting of the Medico-Legal Society, on April 26th, by Mr. Ross BROWN. He commenced by reviewing the decision of the Court of Appeal in Hillyer *v.* The Governors of St. Bartholomew's Hospital (1909), 2 K.B., 820. In that case the plaintiff, who was himself a registered medical practitioner, sued the defendants to recover damages for injuries which he alleged he had sustained through the negligent conduct of an operation at the hospital. It was alleged that his arm was burnt while he was on the operating table. The operation was conducted by a consulting surgeon who was attached to the hospital, but was not under the control of the defendants. During the operation he was assisted by members of the medical staff. It was held that the action did not lie. In the course of the judgement it was pointed out that the only duty undertaken by the governors of a public hospital towards a patient treated in the hospital was to use due care and skill in selecting their medical and nursing staff. The physicians and surgeons who gave their services at the hospital were employed to exercise their profession to the best of their abilities according to their own discretion, but in exercising it they were in no way under the orders, or bound to obey the directions, of the governors. Although the nurses employed at the hospital were servants of the governors for general purposes, they were not so for the purposes of operations conducted by the medical staff. Mr. Ross Brown pointed out, in this connexion, that, according to the view of the Court of Appeal, a public body was liable for the negligence of its servants in the same way as private individuals would be liable under similar circumstances, notwithstanding that it was acting in the performance of public duties, like a local board of health, or of eleemosynary and charitable functions, like a public hospital. The next case germane to the discussion was Hall *v.* Lees (1904), 2 K.B., 602. There an action was brought against a nursing home which sent out nurses to attend patients in the Oldham district. One of the nurses so sent out was guilty of negligence in the course of treating a patient. It was held that upon the true construction of the documents in the case—for example, the rules of the association, etc.—the contract of the association was not to nurse the female plaintiff through the agency of the nurses as their servants, but merely to procure for her duly qualified nurses, and that the nurses were not, in nursing the female plaintiff, acting as the servants of the association; and therefore the defendants were not liable in respect of negligence of the nurses supplied by them. Mr. Ross Brown said that having regard to the decision of Mr. Justice Walton in Evans *v.* Liverpool Corporation (1906), 1 K.B., 160, the position of a rate-supported hospital seemed to him rather more favourable than that of an ordinary hospital. The learned judge had then said:

> It would be a very serious burden upon public bodies who carry on similar hospitals. . . . In my opinion they undertake the duties of persons who manage and carry on the business of a hospital. . . . They do not undertake the duties of medical men, or to give medical advice, but they do undertake that the patients in their hospitals shall have competent medical advice and assistance, and it is admitted that Dr. Archer was a competent medical man, and that no blame attaches to the defendants for employing him. Assuming that he made a mistake, even a negligent mistake, I do not think that the defendants are liable for its consequences. . . . It is contended that the doctor was the servant of the defendants for the purpose of discharging the child, and that they are liable for the negligence of their servant, but the terms of his appointment and the rules under which he acted do not bear out this contention.

Having incidentally alluded to the American and New Zealand cases—MacDonald *v.* Massachusetts General Hospital (21 Amer. Rep., 529), Glavin *v.* Rhode Island Hospital (34 Amer. Rep., 675), and the District of Auckland Hospital and Charitable Aid Board *v.* Lovett (10 N.Z.L.R., 597)—Mr. Ross Brown pointed out that the result of the decisions appeared to be that the authorities of public hospitals do not undertake the duties of medical men or to give medical advice, but they do undertake that the patients shall have competent medical advice and assistance. Their obligation was that the patient should be treated only by experts, whether surgeons, physicians, or nurses, of whose professional competence the hospital governors had taken reasonable care to assure themselves. The relation of master and servant did not exist between the governors and the professional staff, and provided reasonable care had been exercised in selecting a competent staff and proper apparatus and appliances, the governors were not liable for the negligence of the staff. The nurses and others assisting at an operation ceased for the time being to be servants of the governors of the hospital, inasmuch as they were under the sole orders of the operating surgeon, who, until the operation was completely finished, was supreme. The contract of the hospital authorities was not to nurse during the operation, but to supply nurses and others in whose selection they had taken due care. It was remarkable, added Mr. Ross Brown, that although some of these great institutions had been actively discharging their philanthropic duties for centuries, and many thousands of the population were medically or surgically treated within their walls every year, the law courts of this country had only of recent years been called upon to discuss the principles governing the relationship of hospital authorities and patients. It was gratifying to find that the result of these judicial decisions was not calculated to discourage or in any way cripple the noble work which our hospitals were performing in the relief of human suffering.

SCIENCE NOTES.

ALTHOUGH the elm can never hope to occupy amongst trees the honoured and enviable position of the oak, yet it has many claims on our regard. It is a stately and graceful tree, and imparts an air of beauty to its surroundings, and for these characteristics it has been chosen to adorn many an imposing avenue. Essentially a lowlander, it is found in greatest profusion along the banks of our main rivers, yet it makes its way up mountain valleys, and the wych elm is most abundant in hilly parts. There are several varieties of elm found in Britain, but authorities have hitherto not been in agreement as to their relative distinctness as species on the one hand, and as to their being truly British trees on the other. The matter is discussed at some length by the Rev. Augustus Ley in the *Journal of Botany* for March. He refers to the confusion in nomenclature resulting from the inadequacy of early descriptions and the absence of type specimens, but considers that the differentiation of the various forms ought to be easy. The mature samara, or seed case, should afford the best means of differentiation, but herein lies one of the peculiarities of the elm tree. It is not alone by seeds that it effects propagation; it has the additional resource of underground suckers. Yet that is not true in every case, for the wych elm (*Ulmus scabra*) possesses no suckers, and reproduces itself entirely by means of seeds. Mr. Ley recognizes five species, one of which, the Huntingdon elm, is universally regarded as a hybrid between the wych elm and the smooth-leaved witch elm (*Ulmus glabra*). We may therefore take it that there are four species of indigenous British elms. *Ulmus glabra* is native only in the southern parts of England, but is common throughout the whole country as a planted tree, and it is the one which is especially suitable for avenues. There are four varieties. The third species, *Ulmus major*, is scattered throughout the lowlands of England and Wales, and extends up the mountain valleys. The fourth is the English elm (*Ulmus surculosa*), and its name is unusually appropriate, for it is found nowhere else in Europe, although it has been planted in a few places on the Continent. It is the most peculiar member of the family, for it propagates only by suckers. It bears seeds, it is true, but not till 40 years old, then only in scanty numbers, and they always abort. It was for this reason that for a long time it was considered not to be indigenous to Britain, but Mr. Ley shows the solution of the mystery lies in the great development of the suckers. The change in the method of reproduction can be traced from the wych elm through the other species to the English elm.

British Medical Journal.

SATURDAY, APRIL 30TH, 1910.

THE MEDICAL COMMISSION OF PRISONS.

It was perhaps inevitable that the debate in the House of Commons last week (April 22nd) should end as it did, leaving the Home Office impenitent and free from any definite pledge for the future, or rather leaving it in the position of having repudiated the pledge given in 1898. The Departmental Committee on Prisons, over which Mr. Herbert Gladstone presided in 1895, recommended strongly the appointment of a medical member of the Prisons Board. In 1898, when the Prisons Bill was before the Grand Committee of the House of Commons, an amendment, proposed by Mr. Davitt and strongly supported by Mr. John Burns, was carried to the effect that one of the Prison Commissioners should be a medical man skilled in mental disorders. In commenting upon the matter at the time we said: "Mr. Burns had no difficulty in showing with practically unanswerable force that if we wished to treat with due regard to reclamation as well as deterrent seclusion a hapless set of folk, who are only too often hereditarily predisposed to the crime amidst which they are afterwards brought up, we must place among the superintending body some one skilled in physiology and psychology." The proposal was carried in Committee by 25 votes against 7. In the House of Commons itself Mr. Haldane said that it was not sufficient to have a medical expert among the servants of the Commission, but that one of the Commissioners giving instructions should himself be a medical man. Sir Matthew White Ridley, who was then Home Secretary, promised to appoint a medical man as one of the Commissioners, and added that he had no doubt that all his successors would do the same. Responding to appeals from Mr. Asquith and other members of the then Opposition, Mr. Balfour, who was leader of the House of Commons, gave a pledge that the matter should be the subject of a special minute entered upon the Home Office records. These assurances were accepted as a substitute for a binding statutory provision. Dr. Donkin was appointed, and served until the beginning of this year, when he had to retire under the age clause. Promises made to the House of Commons and the minutes in which they were recorded in the Home Office records were on this, the first opportunity, forgotten or set aside. Mr. Herbert Gladstone, who was then about to resign the office of Home Secretary, appointed his private secretary to be one of the Prison Commissioners. The excuse officially offered for this violation of the undertaking, that the administrative work thrown upon the Prison Commission had greatly increased since 1898, and that it was therefore desirable to seek medical advice outside, does not, as Mr. Balfour said, hold water. The contention on the part of the Home Office appears to be that when Dr. Donkin was Prison Commissioner he was not only a medical expert, but had to devote a considerable portion of his time to the administrative work of the Commission, and that under a new arrangement by which Dr. Donkin had been appointed expert medical adviser for five years at a salary of £200 a year he would be able to place his medical knowledge entirely at the service of the Commission. With all respect for Dr. Donkin's attainments and public spirit, we think it unfortunate that he should have accepted this arrangement; he seems to have allowed himself to be used as a pawn in a political game which even politicians find it difficult to defend. The salary is so small that it cannot be supposed that the Home Office expects to command any large part of his time. But, apart altogether from this, the principle involved in the recommendations of the Departmental Committee of 1895, and the undertaking extracted from the Conservative Government in 1898 by leading members of the present Administration have been violated, to the detriment, we cannot but believe, of the inmates of prisons. As Mr. Burns said in 1898, many of those whom we are compelled to shut up are born with wretchedly balanced minds, and are frequently hovering on the border-line which separates the gaol from the madhouse—a point of view pithily expressed by Sir William Collins when he said in the debate last week that the border-line between the mad and the bad was so exceedingly difficult to draw that the presence of a medical man on the Commission was advisable.

Dr. Donkin has apparently accepted the new appointment of Medical Adviser for a period of five years, but that need not, we take it, stand in the way of at once carrying out the principle of appointing a medical commissioner by an increase in the number of commissioners—a suggestion which was made by Mr. Balfour last week, and apparently approved by Mr. Masterman, the Under Secretary of the Home Department. But the real intentions of that department are left a little in the dark. Sir Henry Craik before the debate took place had given notice of a question asking the Home Secretary to state whether in filling the vacancy on the Prison Commission regard was had to the official minute as to a medical commissioner placed on record at the urgent request of members of the present Government. The question, apparently by an inadvertence, got into the papers for last Monday; in consequence of the debate on the previous Friday Sir Henry Craik said he would not ask it, but the Home Secretary, who had not taken part in the debate, wished to answer the question. He had not, however, gone further than to say that some of the statements in the question were inaccurate, when he was stopped by the Speaker, who ruled him out of order, and in spite of a special appeal by Mr. Churchill maintained his ruling. The matter, however, cannot be considered to be closed, and we hope that some further opportunity may be taken of raising the question in the House of Commons.

ON COLOUR VISION.

There is probably no subject in the whole domain of ophthalmology at the present time about which so much confusion exists as about colour vision, both as to its theory and as to the practical tests which should be used, yet its study is most fascinating both from the physiological and ophthalmological points of view.

Many theories have been advanced to explain the phenomena, but most of them are based on a pure hypothesis, and the facts as ascertained by observation have usually had to be moulded to fit the theories which for the most part had nothing more to recommend them than the names of the distinguished

physiologists and scientists who first enunciated them.

Few modern physiologists have given the matter the study it deserves, and thus we see the theories of Young, Helmholtz, Hering, and others copied from book to book with scarcely any variation. True, such men as Sir William Abney, Professor Burch, and others have given much thought and study to it, but these, after all, are not men who are acquainted with ophthalmic science.

It is not possible to refer to more than a small fraction of the work which has been done, but a useful result will be attained if more general attention can be drawn to the conditions which exist at the present time, to the opinions held with regard to colour vision and to the tests applied for the detection of colour blindness among those whose duty it is to read signals made with coloured flags or lights.

It is impossible to approach the subject without our thoughts at once going towards one who has, in season and out of season, and with admirable perseverance, constantly been urging upon the profession and the authorities a theory which he believes explains the facts and a practice which gives the key to all tests. Dr. F. W. Edridge-Green first placed his views before the medical public in a thesis for the degree of Doctor of Medicine of the University of Durham in 1889, for which he was awarded the gold medal. He then wrote several papers and pamphlets on colour blindness, but his views were altogether at variance with the theory of Helmholtz, and any one who has followed his efforts knows with what hostile criticism his ideas were attacked.

Curiously enough, his opponents adopted a style of argument which is still all too common, and instead of investigating the facts, they, for the most part, were content to say that these things could not be so, for such a distinguished mathematician and physiologist as Helmholtz had not found them so.

Every one, of course, knows the wave theory of light, and the facts that those rays which are of the less refrangibility and which are of slower vibrations are collected at the red end of the spectrum, while those of higher refrangibility and of more rapid vibrations are at the violet end. In the eye the visual purple—a photo-chemical substance—is secreted by the epithelium, distributed by the rods, and kept in store by them. When light is admitted into the eye the visual purple at once diffuses itself through the retina, and by its photo-chemical decomposition stimulates the cones to a greater or less degree, and thus sends visual impressions up the nerve fibres, of which the cones are specialized endings. These impulses are conveyed to the visual centres in the brain, which distinguishes one impulse from another, one impulse being interpreted as coming from one object of a certain colour, and another impulse as belonging to another colour. Thus we have in the brain an analytical laboratory in which the impulses are separated and sorted out, and we become conscious of the colour and the amount of light reflected by all and sundry objects which form an impression of themselves on our retinas.

Light being the source of all visual impressions, it follows that no object of itself possesses any colour. Take away the light, and the colour and visibility of the object is gone. Look, for instance, on an object which in solar light appears green, and then illuminate it by a pure red light; it no longer appears green, for the simple reason that under ordinary illumination it absorbs all the other rays of the spectrum except those which, by themselves or in combination, are of a certain wave length which we call green; and it likewise follows that we have in spectral light all the colours which can possibly be given to any object in nature, though, by mixture, modifications of the fundamental colours may exist. By the normal human eye six distinct colours are seen in the spectrum—red, orange, yellow, green, blue, and violet; one in every few thousand individuals sees another colour in the spectrum between the blue and the violet, and this is termed indigo. The vast majority of mankind is, however, incapable of seeing indigo at all. Every one, of course, knows what the pigment called indigo is, but that is not the indigo in the spectrum, which, as we have said, is to most people invisible as a colour distinct from blue and violet.

This leads us to the consideration of the development of colour vision. There is a good deal of evidence to show that in earlier ages many colours which we now appreciate were unrecognized; and, in fact, although we know that the wave lengths of the rays at the red end are much larger than those at the violet end, a stage can be imagined in which the whole spectrum assumed a neutral colour representing total colour blindness. As more cells were added to the perception centres, man may be supposed to have in time reached a stage when he was able to see some colour in the spectrum, red at one end and violet at the other, with a large neutral band separating the two. The coloured ends gradually enlarged until they met. In this stage such a person with or without a neutral band might be called dichromic. More cells being still added as development progressed, man became able to distinguish as a separate colour rays whose wave lengths were situated midway between the red and the violet and these were termed green; thus the trichromic stage was reached. Next, the rays between the red and the green assumed a different colour, and these were called yellow, so that man distinguished four colours —red, yellow, green, and violet—and reached the tetrachromic stage. Then a fifth colour, blue, was seen between the green and violet, the pentachromic stage; and, finally, another colour became interposed between the red and yellow—the hexachromic stage was reached, producing the six unit normal-sighted person who sees red, orange, yellow, green, blue, and violet. Very few have developed a seventh colour—indigo, which, as was to be expected, appeared between the blue and violet—the heptachromic stage.

If this be the way in which colour vision developed, it would be in accordance with what is known of other organs and functions to meet with individuals in whom this function had not reached its full development, but had stopped short at one of the evolutionary stages, and this is what happens. Every known form of colour vision and colour blindness falls into one or other of the groups mentioned, and no case has ever been seen which cannot be explained by reversion to a previous stage.

It, of course, follows that if we have to crowd six or even seven colours into a spectrum, each colour must occupy less space than when two or three colours only are present in a space of the same size. As a necessary consequence, the mapping out of the spectrum will vary in each group of persons who has less than the six normal colours present. Take, for example, a trichromic; the spectrum seen by such a person has the same length as that seen by an individual of normal colour vision, but whereas the trichromic has to fit only red, green, and violet into the

space, the other has to put in six distinct colours; consequently the mapping out of the spectrum by the one will not agree with the observations of the other. The trichromic will see red extending right up to his green, and if asked to place a pointer at the line of demarcation, his red and green will meet in the orange yellow, and he will call the region between red and green red-green. His green will likewise include some blue, and his violet and green will meet. In precisely the same manner we find rays of the same wave length appearing as different colours to one class of colour-blind persons as compared with another class. This point is most important, for it really gives the keynote to the whole problem. It goes further than any other fact to prove that the differentiation of colours is really a psychical process rather than one which takes place in the retina itself. A colour-blind person is not less able to appreciate light than one who is not colour blind; if he had some deficiency in the retina, the light sense could hardly fail to be affected. There are also cases in which there is defective sensibility of the retinal nervous apparatus for light of a certain wave length or intensity, or when the image on the retina is diminished in size.

When these facts are realized, the *rationale* of the tests devised by Dr. Edridge-Green is at once seen.

Although the use of the spectrum is perhaps the last word in the examination of the colour sense, ye for practical purposes it is hardly applicable, owing to its expense, and to the fact that experts only can use it, while candidates who have never been accustomed to using a microscope or telescope often find considerable difficulty in looking down the tube of such an instrument and construing what they see. For practical purposes, therefore, a lantern is more useful. In the first place, it is an object with which all railway servants and seamen are familiar, and it is the coloured signal lantern which these men have to name in their daily work. Then, again, it is most useful at times to be able to demonstrate to a patient's friend the mistakes he is making, for common is the colour-blind individual who is so convinced that he answered correctly that he will not believe he has made any error. If his trusted friend, however, assures him that he really has called a green light red, there is some satisfaction to the patient in knowing that his friend confirms the statement of the examiner. In the Edridge-Green lamp all spectral colours can be shown, and the slides are so cunningly arranged that not only is it impossible for the candidate to know what colour is coming up next, but the very colours that are shown are mixed in such a way that while they present no sort of difficulty to the normal sighted, yet they cause the greatest possible confusion to the colour blind. These qualities are absolutely essential in any lantern that is to be of any real use. The whole thing looks so simple that so soon as Edridge-Green showed his lantern modifications were brought out which, though they may have been well made from a mechanical point of view, were yet hopelessly inadequate for the purposes for which they were required, owing to the fact that the inventors had not grasped the essentials of the test, and had not the requisite knowledge to apply it. In this way the test was discredited, but it remains to-day by far the best, and, in fact, the essential, test to be applied to all those whose business it is to read coloured signal lights. Let no one introduce for himself a lantern unless he not only thoroughly understands the requirements, but possesses also the necessary skill with the spectroscope to be able to analyse every particle of glass which he proposes to use in his instrument. If he cannot do this the lantern will only bring discredit on the inventor, and possibly on the test as well. Further, no lantern is of any real use unless it has neutral glasses which can be used to modify and diminish in intensity a light of any colour.

Little need be said regarding the Holmgren wool test. It has been abandoned by every one who really knows anything of the subject. Nobody objects to the use of coloured wools; but when the test consists of matching only, without the use of colour names, it is almost worse than useless, for although it will catch a certain number of colour-blind persons it will cause the rejection of very many normal-sighted people who are tested, as was found by the Board of Trade when between 40 and 50 per cent. of those rejected by it were, on appeal, found to have normal colour perception. This test is most difficult to apply, and even the most skilful examiners cannot in many cases come to a right conclusion. A test which will reject normal-sighted persons and fail to detect abnormal ones ought to be put aside for something far better which is already at hand. If wools are to be used at all, they should be supplemented by coloured silks, cards, and glass, for many a case is detected by these which is overlooked when wools alone are used. It is rather like flogging a dead horse to say anything about the Holmgren test, though it still remains the official test of the Board of Trade, although a man who may be suffering from a central colour scotoma, and be incapable of telling one coloured light from another, will, as a rule, readily pass this test.

The persistency of Dr. Edridge-Green, who for so long has had to fight against the stone wall tactics of officialdom, is worthy of all praise. In an early part of his career he was appointed the expert adviser of the Board of Trade and a member of the International Code of Signals Committee. Owing to the interference of the Royal Society the matter was taken out of his hands, and chaos has reigned ever since. No one would test his facts; but he persevered, and now he has the satisfaction of seeing his views and methods adopted on all sides, simply because independent observers were wise enough to try for themselves, and to tell the opponents that if they also would try for themselves they would find that the facts absolutely and entirely supported the ideas for which Edridge-Green had been held to be next door to mad for proposing. It is to men like him that honour is due for their persistency in fighting a good cause, and in finally conquering the forces of ignorance and ridicule which have been drawn up against them.

THE PROBLEM OF THE FEEBLE-MINDED.

IN another column (SUPPLEMENT, p. 200) will be found notices of the last annual reports of three of the most important establishments in England for the care of young mental defectives, as well as of an appeal for the development, under the auspices of the National Association for the Feeble-Minded, of a comprehensive colony, near Tonbridge, for this class. It may therefore be opportune to take a general survey of the situation as it affects not only the individuals it is sought to aid, but the larger sociological issues involved in attempts in this way to stem the tide of national degeneracy. The monumental report of the recent Royal Commission

on the Care and Control of the Feeble-Minded[1] has attracted a considerable amount of public attention, but so far, unfortunately, has not led to legislative action based upon its recommendations. In the meantime the conditions inimical to the mental vigour of the nation disclosed in the report go on unchecked otherwise than by the voluntary efforts of charitable organizations, which, however praiseworthy, cannot reasonably be expected to overtake the far-reaching necessities of the case.

The Royal Commissioners laid stress on the gravity of the present state of things, and pointed out that their investigations showed that "there are numbers of mentally-defective persons whose training is neglected, over whom no sufficient control is exercised, and whose wayward and irresponsible lives are productive of crime and misery, of much injury to themselves and to others, and of much continuous expenditure, wasteful to the community and to individual families." To meet this there is available from public sources only a system of education in special classes, which is local and "permissive," adopted here and there, without any supplemental provision for subsequent aid and supervision of those who have passed the period of school training, which terminates at 16. The uncontrolled youthful mental-defective is but too apt to pass into the ranks of criminals or of confirmed lunatics, and thus to entail lasting expense upon the community. Worst of all, there is no check on the continued propagation of their kind, and investigation shows that feeble-minded folk are apt to be prolific, so that the evil tends to extend in increasing degree from generation to generation.

The Commissioners estimated the aggregate number of "mentally defective persons" in England and Wales at 271,607, including under that term certified lunatics as well as 149,628 persons not certified but needing control. In the last category were 66,509 for whom special provision either in their own interest or for the public safety was urgently needed. They estimated the number of mentally defective children in the elementary schools of England and Wales at 35,662, and so far not more than 11,000 school places have been provided for their special training.

Space will not permit us to enter upon a discussion of the various recommendations made to meet, as economically as may be, these appalling conditions. It must suffice to state that the Commissioners propose to extend public protection to all classes of mentally defective persons, and recommend the establishment of a central Board of Control to supervise the operations of local statutory committees, whose duty it will be to make suitable provision for such persons in their own districts. It is proposed to utilize existing voluntary homes and institutions to the fullest extent, and in this way it is to be hoped that those charitable organizations which have done such admirable work in the past may be enabled by State aid to extend their field of operations in the future. The great drawback of the system hitherto pursued at such institutions as Earlswood and the Royal Albert Asylum has been the absence of permanent provision for the larger number of trained inmates requiring it; and in this consists the superior advantage of the Colony plan in existence at Sandlebridge and contemplated by the National Association for the Feeble-minded. The older institutions, moreover, are not primarily intended for patients of the pauper class; and the provinces have been slow to follow the example of the Metropolitan Asylums Board, which since 1870 has established a series of asylums for the pauper imbeciles of London, both children and adults, and of late years has transformed that at Darenth into a very serviceable industrial colony. All told, the aggregate special charitable and Poor Law accommodation for imbeciles (as distinguished from lunatics) in England and Wales, other than in workhouses, does not amount to 10,000 beds; in addition nearly 1,000, classed as "feeble-minded," are also provided for in residential homes.

The report of the Poor Law Commission concurs with that on the Feeble-minded in holding that the mentally defective ought primarily to be dealt with not on the ground of destitution, but on that of mental defect. Consequently we may expect some modifications of the pauper classification indicated above. Moreover, the Royal Commission on the Feeble-minded give a somewhat novel classification of those requiring care and control under nine categories, as follows: "(1) Persons of unsound mind (equivalent to *lunatics*); (2) persons mentally infirm (*dements*); (3) idiots; (4) imbeciles; (5) feeble-minded (the last three being *aments*); (6) moral imbeciles; and mentally defective (7) epileptics, (8) inebriates, (9) deaf-mutes and blind"; and institutions appropriate to the several infirmities will be necessary. All these desiderata in dealing with defectives would seem to imply a considerable increase in public expenditure; but it must be remembered that the neglected feeble-minded in our midst are already costing the country a large sum for maintenance in workhouses, prisons, reformatories, and inebriate and other similar institutions, whereas, if "detected early and protected always," they could be trained to honest labour, which would, at any rate, help towards their maintenance, and by segregation the great and costly peril of transmitting to succeeding generations the *damnosa hacreditas* of mental defect would be diminished or avoided.

[1] BRITISH MEDICAL JOURNAL, August 8th and 15th, 1908.

THE INTERPRETATION OF THE DENTISTS ACT.

THE decision of the House of Lords in the case of Bellerby *v.* Heyworth, published last week, p. 1026, may have far-reaching and disastrous results. Section 3 of the Dentists Act, after prohibiting the use of the title "dentist" or "dental practitioner" except by those persons who are registered under the Act, goes on to say, "or any name, title, addition, or description implying that he is registered under the Act or that he is a person specially qualified to practise dentistry." The issue turned upon the meaning to be attached to the words "specially qualified to practise dentistry"; it had been decided in lower courts that persons who claimed by advertisements or other means of publication that they were possessed of skill in dentistry brought themselves within the meaning of the expression, "specially qualified to practise dentistry," and convictions had been obtained in cases where the use of the definitely prohibited titles had been carefully avoided. This, which seemed the only obvious interpretation of the Act, placed serious obstacles in the path of the unqualified and unregistered, who found themselves in a difficulty in making any attractive announcements. Although it was pointed out, and admitted, that the words are absolutely redundant unless they are so interpreted, yet the House of Lords has decided that they are to be taken as referring to qualification in the narrower technical sense of a licence granted by a qualifying body; this is tantamount to saying that they are, in fact, meaningless and

redundant, as the question of legal qualification had been already fully dealt with in all its aspects in the preceding part of the section. Neither these words, nor their equivalent, occur in the Medical Acts, which are, therefore, not directly influenced by the decision. Nevertheless, the decision seems once more to illustrate the tendency where there is a possibility of doubt—and here the doubt was sufficient for other courts to have come to the contrary conclusion—to interpret the law in favour of the unqualified. It further emphasizes the fact that nothing short of definite prohibition of all unregistered practice, which is the law in many of our colonies and in many foreign countries, will be efficient in checking the evil of unqualified practice. For here are words which the framers of the Act, and Parliament when it passed the Act may be presumed to have intended to mean something, yet the highest court of the land has decided that they mean nothing whatever beyond what had already been said—in other words, mean nothing at all. Another appeal, Minter *v.* Snow, also came before the House, but did not obtain a full hearing. Although the grounds of the action were different, it turned upon the interpretation of the same words, and so was governed by the decision in Bellerby *v.* Heyworth.

HOSPITAL LETTERS.

SOME time ago an animated correspondence took place in the *Western Morning News* concerning the South Devon and East Cornwall Hospital. The letters make most excellent reading, and to enjoy them it is unnecessary to have inspected this hospital, for it is quite enough to have a knowledge of financial and professional administration of hospitals and acquaintance with the history of the hospital world in general. The correspondence took place between Sir Henry Burdett and various persons more or less directly connected with the South Devon Hospital, the whole of it turning on an article which appeared, under the name of Sir Henry Burdett, in the issue of the *Hospital* for November 27th. This contained a slashing criticism of the South Devon and East Cornwall Hospital as a construction, as an institution, and as an instance of administration; there was also a good deal of fatherly advice, the whole thing ending with a groan that the committee had omitted to obtain the advice of "an authoritative and experienced referee" in hospital matters. Later Sir Henry Burdett's contributions to the correspondence revealed that the foundation of this article was a visit paid in the course of some inspections by which he is trying "to bring light and knowledge into each of our great provincial hospitals," that his expressions of opinion are "authoritative," and that he wishes "to co-operate to the fullest extent which experience, knowledge, and technical facility can bring." A hospital which was open to no criticism whatever would be a truly remarkable institution, and in any case, not having visited this particular institution recently, we are unable to judge on specific points between the controversialists. At the same time, since those in charge of the institution have at their back an excellent staff of professional advisers and co-operators, and the West of England contains quite as many hard-headed men as other parts of the country, it seems improbable that they have anything to learn as to existing defects and possible remedies from their critic. In what may be gathered of Sir Henry Burdett's own views as to how a public charity should be run, there would seem to be much scope for criticism. He appears to hold that if it has a steady income of, say, £4,000 from investments, against a steady annual expenditure of two and a half times that amount, its managers should reduce that steady income forthwith if they can find any ready outlet for the money, and that they should convert their dealings with subscribers into a mere question of exchange and barter. In other words, they should be offered an exact return for any sums they contribute by a promise that they shall be supplied with nurses whenever required and with tickets for in-patient treatment of persons recommended by them to the precise value of their contributions. It is not thus that successful hospitals are run. Indeed, the whole tendency is to abandon subscribers' letters altogether, their use being found detrimental to the interests of the poor, and in no wise really facilitating the collection of funds. The proof of this lies in the decision of the Hospitals Conference a couple of years ago. Nowadays it is chiefly in small country towns where there are few really well-to-do people that the system of hospital letters is still continued by way of complimentary acknowledgement of support. In a town of the importance of Plymouth there can be little excuse for maintaining it, while to extend it into a definite system of *quid pro quo* would be setting the clock back something more than twenty years. The character, indeed, of this suggestion may give ground for the supposition that possibly the rest of Sir Henry Burdett's counsel, if secured, might be found to date in its bearings to from much the same period. On the whole, we think the good people of Plymouth take Sir Henry Burdett as an authority on hospitals too seriously.

INSURANCE FOR MEDICAL MEN.

THE Medical Insurance Committee had before it at its meeting on April 27th a report from the chairman, Dr. Haslip, on the business done during 1909, together with a statement of accounts for the year. Dr. Haslip referred to the lamented death of Dr. Radcliffe Crocker, who had always exhibited great practical interest in the Medical Insurance Committee and enthusiastic confidence as to its ultimate success, and had acted as its chairman from its inception in 1907 until his death last year. His successor was able to report that the business of the Committee had been progressive in all directions; the total premium income had reached £2,411, an increase of £725 over the previous year. In November the Committee was in a position to issue through Lloyd's a satisfactory and comprehensive policy against all motoring risks. These policies had proved highly popular; during the last two months of 1909 the premium income from this source reached £236, and for the current year it has already reached £650. The working expenses of the agency, carried on by Mr. Guy Elliston on behalf of the Committee, are exceedingly low, more especially in view of the fact that the experience gained in the business of personal accident and employers' liability insurance shows that renewals involve much labour in correspondence, as the percentage of variation year by year is considerable. The Committee has been able to return in the form of rebates on premiums to those taking advantage of its agency no less a sum than £500—a result which in itself justifies the existence of such an agency. Having regard to the small proportion of the commission retained by the Committee to cover working expenses, it was not to be expected that any considerable reserve could be built up, but by the strictest economy the Committee is this year in a position to carry out one of the objects which was had in view at its foundation, namely, to assist by occasional contributions the benevolent organizations of the profession. It was able to vote donations of 10 guineas each to the British Medical Benevolent

Fund, the Royal Medical Benevolent Fund Society of Ireland, the Birmingham Medical Benevolent Fund, and to the Ladies Guild of the British Medical Benevolent Fund, and in addition 5 guineas to the last-named guild to assist in defraying the initial expenses. The future prosperity of the work of the Medical Insurance Committee must depend upon the support it receives from the medical profession. Among the members of the British Medical Association itself there are still many who have not taken advantage of the facilities offered by the Committee, and their attention may be specially called to the motor car insurance, as the terms offered are exceptionally advantageous and specially adapted to doctors' needs. By insuring through the Committee they will not only effect considerable saving in their own personal expenditure, but will help the Committee to carry out the other object mentioned, namely, the giving of assistance to medical benevolence. During the year Dr. Frederic Hewitt, M.V.O., has been added to the Committee on the nomination of the Editor of the *Lancet*, and Dr. Mackintosh, M.V.O., of Glasgow, and Dr. Hugh Ker, of London, have also joined it. Full particulars can be obtained on application to the Secretary and Agent of the Medical Insurance Committee, 429, Strand, London, W.C.

THE HOSPITAL FOR BAD LEGS, MANCHESTER.

On another page we give some analyses of the preparations sold by the National College of Health and Hospital for Bad Legs of Great Clowes Street, Manchester, with some account of the methods used to attract patients, and if any further proof were needed of the necessity for further legal control of medical companies, this alone should furnish everything that could be required. The institution has been in existence for several years, but has recently become very active, and claims to have treated some thousands of cases by what is called the "Tremol treatment for bad legs." The methods used to attract patients are open to serious criticism. It is stated that every patient is under the direct supervision of a "fully qualified medical man." Several attempts have been made to find out the name and qualifications of any such medical man, but without success, and it is to be noted that he is called "fully qualified," not "duly registered," and at any rate no duly registered practitioner is known to have anything to do with the place. It would appear that comparatively few of the patients receive any personal examination, and that the great majority are never even seen by the "doctor" or by any of the staff, and anything approaching diagnosis is made simply from perusal of letters sent by patients. On turning up the *Truth* Cautionary List the following note is found: "National College of Health, Great Clowes Street, Higher Broughton, Manchester.—Proprietors of a cure for bad legs called 'Tremol.' The first price for a course of treatment is two guineas, which is reduced to one guinea if the bait is not swallowed. Also endeavours to obtain advertisements on the payment-by-results system, offering 5s. for every patient caught through an advertisement." We may add that if a patient once applies for information, he may expect to be dunned for months until he orders the remedies. This is well shown in letters sent to a person who, after receiving the budget of testimonials, had decided not to order the remedies. The following are typical extracts of the letters he received. "I am truly sorry and much disappointed that you have not yet participated in the benefits of the Tremol treatment. I am personally anxious that you should become a patient of mine, as I know positively that you would derive the greatest of benefits . . . Is it scepticism? Is it doubt? Is it your financial position that stands in the way? Tell me plainly your reason for not ordering the treatment and let me help you as it is my earnest desire to do so. I am anxiously awaiting your reply." This letter of entreaty seems to have had no result, and accordingly in a few weeks another was sent, saying: "I am specially interested in your case and having brought it to the notice of the Board of Directors I am instructed by them to make the following concession to you." The concession was that the full two-guinea course of treatment would be sent for 31s. 6d. on the condition that "when you are cured you will tell all your friends and neighbours that it was the Tremol treatment that cured you and that you do not divulge that the Board has made this concession." The reason for this secrecy is not very obvious, inasmuch as the offer of similar concessions seems to be by no means rare. One of the letters contains the words, "I am personally anxious that you should become a patient of mine," and it might naturally be inferred that the signature was that of the "fully qualified medical man," but we cannot trace the name in the *Medical Register* as that of a person residing in or near Manchester. In November last a special investigator was sent to the institute by the periodical *John Bull*, who came away perfectly satisfied "that the Tremol treatment is an honest one and ably applied," and that "it distinctly merits the praise of *John Bull*." The investigation seems to have consisted in "roaming over the whole of the carefully-kept records of the thousands of cases treated" and apparently accepting everything that was told—not a very scientific method of investigating a treatment on which the health of thousands of patients may depend. The investigator was told, among other things, that the treatment is applied to five classes of diseases of the leg—(1) ulcers of every description; (2) eczema and skin diseases; (3) varicose veins; (4) tuberculous disease (diseased bone); and (5) swollen and painful legs (phlebitis, etc.); and we are told that "the treatment is able to cure all the diseases included in the classes (1) and (2); but of the classes (3), (4), (5), those only are selected which the medical history and circumstances of the particular case convinces the doctor are at least curable." Speaking of the remedies used, *John Bull* says they are secret, but "the composition was freely disclosed to us . . . and the ingredients are not of a harmful nature; indeed, some of the most valuable and beneficial drugs known to the medical faculty are included in them, but this particular combination has never before been used in medicine, and some of them are quite new." One would like to know which of the ingredients revealed by analysis *John Bull* considers quite new; it cannot be the chloride of calcium or the chloride of iron, or the infusion of rhubarb, or the prepared chalk, or the zinc oxide, or the lead carbonate—perhaps it is the peppermint water. As far as our analysis reveals, the combination is a heterogeneous mixture of anything that might possibly be of use, regardless of chemical combinations that may result, and we fail to detect any trace of any new drug. We have only found the very commonest drugs in ordinary use. There can be little doubt that in the interests of the public health it is necessary that there should be a full investigation of the National College of Health and Hospital for Bad Legs. If there is a registered medical man connected with the place, he is certainly acting in a way that makes him liable to be arraigned before the General Medical Council; and, if there is no registered practitioner, then the use of the term "fully qualified medical man" is most misleading to the public.

SODIUM CHLORIDE.

IN the February number of the *Zeitschrift für Biologie*, R. Tuteur gives an account of an interesting series of experiments conducted on himself to determine the conditions of sodium chloride metabolism in health. This is a matter which has not engaged much attention, although Carl Voit, fifty years ago, made exhaustive researches on the subject in the case of the dog. Following the usual physiological methods Tuteur put himself on a definite diet, the chlorine content of which was known. At the same time he added a certain amount of salt, which varied at the different stages of the experiment from 0 to 24 grams a day. The daily output of chlorine was estimated in the urine and faeces, but no attention was paid to excretion through the skin. It would appear, as a result of the experiment, that in a healthy individual an absolute daily equilibrium in chlorine output does not occur, whatever the amount of chloride ingested. What actually happens is that varying small amounts are from time to time retained, and at other times increased amounts are given out. When small or moderate amounts of salt are taken over an extended period it is completely excreted, but with larger amounts a certain quantity is stored up; this, however, is got rid of again very rapidly. The faeces contain a very small quantity of chloride, and this varies chiefly with the amount of faeces passed. Increased ingestion of salt causes increased diuresis, and the increase in the chloride excretion follows closely the increase in water excreted. This loss of fluid through the kidneys is compensated by a more solid consistency of the faeces and a decrease in the moisture given off by the skin and lungs. There was on this account a certain degree of constipation in the period during which large amounts of salt were taken. The whole experiment points to the fact that the ingestion of a uniform moderate quantity of sodium chloride has a certain importance in preserving the balance of metabolism.

WOMEN AND THE UNIVERSITY FRANCHISE.

A FLY-SHEET has been issued by a number of male graduates of the University of London inviting signatures of other graduates—presumably male graduates—to a memorial it is proposed to present to the Prime Minister, praying him to take every step in his power to remove the restriction which now prevents women graduates from exercising the parliamentary franchise. The maintenance of the restriction, it is urged, is inconsistent with the spirit of the constitution of the University, where the right to participate in the choice of a member to represent it in Parliament is the only privilege now denied to women on the ground of sex. The memorial points out that every appointment and privilege which the University has power to bestow is now open to women, and that they take part in the proceedings not only of Convocation, but of the Boards of Studies, Boards of Examinations, the various Faculties, and the Senate itself. The memorialists express deep regret that these their fellow members of Convocation, many of whom have attained to the highest distinction in the branches of study and research to which they have dedicated themselves, should be denied equal rights in the election of the representative of the University in Parliament. Unless it is to be maintained that women are absolutely unfit to exercise the parliamentary franchise there appears to be no reason for confining the representation of the University to male votes. It seems indeed churlish and illogical to refuse them the exercise of this function. The experiment would be interesting because the mode of conducting an election at a university differs from that at the general polls, inasmuch as there is no ballot at the university, the voting is public, and it is openly declared to whom each person has given his support. A copy of the memorial is to be sent not only to the Prime Minister but to the leader of the Opposition, but it is hardly to be expected that either of these eminent persons, whatever his private sympathies, will give any definite undertaking to introduce the necessary bill. For it is clear that legislation would be required. In 1906, at the first contested parliamentary election for the Universities of Edinburgh and St. Andrews since women were admitted to graduation, it was claimed that being on the statutory parliamentary voting registers established by the Franchise Act of 1868—namely, the registers of the general councils of the universities—they were entitled to vote; the registrar refused the claim, as did the Court of Session in Edinburgh. An appeal to the House of Lords, ably argued by two of the women interested, met with no better success. The Lord Chancellor[1] said that the disability of women had always been taken for granted, and that there was no room for argument since it was notorious that the right of voting had, in fact, been confined to men. Even if the Prime Minister takes the view indicated above as that which he will probably be disposed to take the memorialists need not be discouraged, for they can still move the Convocation of the University of London to express an opinion favourable to the views of the memorial, and can also move the Senate to take the same course. The University of London was the first to admit all comers to its examinations and degrees without distinction of sex, and it would therefore have special influence and authority in initiating the further movement in the direction of the enfranchisement of women.

THE NOSTRUM NUISANCE.

Who is Silvia? What is she
That all our swains command her?

"ANTIKAMNIA" is not so pretty a name as Silvia, nor will it fit the measure of the song in the *Two Gentlemen of Verona*. But many doctors must at present be asking what it is; and we may be allowed to express our wonder that there has lately been such an outburst of commendation—on the part of the vendors—of that widely advertised nostrum. We have had quite a shower of complaints from medical men to whose wives and lady patients pamphlets, with samples, have been sent. The covering letter begins "Do you ever suffer pain? If so, please try enclosed sample of Antikamnia Tablets! Always prompt and reliable." One pamphlet, of which several copies have come into our hands, sings the praises of the product of the Antikamnia Chemical Company as a pain reliever; an anodyne or sedative, an antipyretic, or antineuralgic, an antirheumatic, and generally as a remedy "for any pain (no matter where)." Another, bearing the title "Practical Prescriptions," gives the number of tablets that must be absorbed for the relief of all manner of ailments. Among these figure alcoholism—with the explanatory words "after debauch," which, we suppose, mean what is vulgarly called "a head"—drunkenness, delirium tremens, and "tobacco nerves." We hope the ladies who have received the pamphlet appreciate the delicate insinuations as to their habits of life conveyed by the list of ills for which Antikamnia is offered as the sovran'st thing on earth. The menopause, "miscarriage pains," painful menstruation—with a variant, "period (pain at time of)"—uterine pain (acute), "women's pains," are also among the ailments in which the marvellous tablets give relief. In fact, if we are to believe the vendors, it relieves everything.

[1] BRITISH MEDICAL JOURNAL, December 19th, 1908, p. 1836.

from flatulency to locomotor ataxia; it is even a cure for worry, which has been called the disease of the age. Inside the box containing the sample we find the oracular statement, "When women suffer or men worry—you have 'The Blues,'" followed by the advice to take two tablets. It is particularly recommended for Americans in London, who appear to be subject to "brain fag," and find they cannot fly about and "make things hum" as they did on their native continent. Londoners may think that with motor cars and electric cars they have quite enough humming here without the help of Antikamnia. And what is the stuff that does all these things? According to an analysis made on behalf of the *Journal of the American Medical Association*, and published in the *Propaganda for Reform in Proprietary Medicines*, reprinted from that periodical (sixth edition), it contains the following ingredients approximately in the proportion given: Acetanilide, 68; caffeine, 5; citric acid, 5; and sodium bicarbonate, 20. Charles Lamb said, when he saw a gaily decorated temperance procession pass him, "You are sober—perhaps; but why make such a fuss about it?" In like manner we say to the Antikamnia Chemical Company: "Your tablets may relieve pain—sometimes; but is there any reason to make such a fuss about it?" Most certainly whatever Antikamnia may do in a particular case here and there, and for the moment, it is not the panacea it is represented to be. The pity of it is that several of the testimonials quoted purport to be from "physicians." They are, it is true, American doctors; but are British practitioners guiltless in this matter? One of the greatest obstacles in the way of any reform in the trade in proprietary remedies is that medical men can be found to testify to their virtues. If a Royal Commission were appointed, the makers and sellers of nostrums would have no difficulty in bringing forward medical testimony in their favour, and the result would be that this evidence would be quoted far and wide as an official confirmation of the preposterous claims made by those interested in deluding the public.

ANTIVACCINATORS IN CONFERENCE.

The National Antivaccination League is failing to attract the measure of public support which it formerly received, and the annual meeting this year was occupied chiefly with "domestic concerns.' A note of sadness was sounded over the losses of parliamentary supporters during the recent elections. According to the report of the League there has been "ceaseless and ofttimes strained activity at head quarters, but apparent apathy in many parts of the country, due to a mistaken idea that our battle has been won." Curiously divergent views were expressed as to the precise time at which the battle will be won. Undaunted by his own defeat, Mr. Arnold Lupton, with a very big "if," suggested that it would not be many months before their efforts were crowned with success. The President, General Phelps, was less sanguine. He did not believe victory would come so soon, and thought the League would have plenty of work to do for the next ten or fifteen years in spreading its "beneficent operations." The failure of the League to accomplish the objects for which it exists has the singular effect of stimulating some of the members each year to attempt an extension of those objects. This attempt at the recent meeting received the usual check from those members who think the League should mind its own business, fearing that it would split upon the rocks towards which the advanced section would steer it. By permission of the Chairman (Mr. Arnold Lupton) a resolution was moved: "That neither vaccination (nor any other kind of inoculation with animal substances) is of any value as a prophylactic against disease; that some of those proposed are dangerous, and have proved fatal when used; and that therefore it is not right that any special declaration should be required of parents in relation to them, or any inspection made of their children without their consent in writing, with a view to ascertaining whether such operation shall have been performed upon them or not." Objection was taken to this strangely constructed resolution, and it was ruled out of order and withdrawn. Suggestions were made that a "van mission" should be instituted, and it appears that even mothers' meetings are not to be free from the insidious attack of the League. This latter development should be carefully watched, and if such a raid is allowed it ought to be promptly counteracted.

HISTOPLASMOSIS.

Under the name of "histoplasmosis"[1] Dr. S. J. Darling, of the Ancon Hospital, Panama, has described a fatal infectious disease of tropical America resembling the kala-azar of India. It is characterized clinically by splenomegaly, emaciation, irregular pyrexia, leucopenia, and anaemia. The pathological features are the invasion of endothelial cells in the smaller lymph and blood vessels and capillaries by enormous numbers of a small encapsulated micro-organism (*Histoplasma capsulatum*), causing necroses of the liver, with cirrhosis, splenomegaly, pseudo-granulomata of the lungs, small and large intestines, with ulceration of the latter, and necrosis of the lymphatic glands draining the infected viscera. The disease is produced by a small round or oval micro-organism, 1 to 4 μ in diameter, possessing a polymorphous, chromatin nucleus, basophilic cytoplasm, and achromatic spaces all enclosed within an achromatic refractile capsule. The micro-organism differs from the Leishman-Donovan body of kala-azar in the form and arrangement of its chromatin nucleus, and in not possessing a chromatin rod. The mode of infection and the portal of entry of the parasite are unknown, as in kala-azar. Three cases in all were studied during 1905–6, but since that date no further examples have been met with, Darling believing that the vastly improved hygienic conditions in which the labourers now live in the canal zone of the isthmus being responsible for its disappearance.

"DECANISATION" OF CONSTANTINOPLE.

Every traveller who has written about Constantinople speaks of the ownerless dogs which roam about in hordes to the terror of strangers and the danger of the inhabitants. It has become a traditional belief in Constantinople that these dogs render a useful service to the community by devouring offal and other filth. Dr. Remlinger, Director of the Pasteur Institute at Constantinople, has rudely shaken this legend in an article recently published in the *Hygiène générale et appliquée*. He estimates the number of dogs prowling the streets of the city on the Bosphorus at 60,000 to 80,000; of these about a hundred die every day. Rabies is relatively rare among them, though more frequent than has been stated; but they disseminate hydatids, tuberculosis, itch, and other diseases. The most grievous charge that is brought against them is that they befoul the streets of the city with their excreta which are full of parasites. It appears that a regular trade is driven in the intestinal products of the dogs of Constantinople, some 12,000 sacks, each weighing 120 lb., being

[1] *Journal of Experimenta Medicine*, vol. xi, No. 4.

exported to America alone for use in the manufacture of gloves. The price of the excrementitious matter thus disposed of averages 28s. per 200 lb., and nearly a thousand persons, including collectors and packers, live by this industry. To what extent disease is spread in this way it is difficult to calculate. Another complaint made by Remlinger against the dogs is that they tend to deprave youth by the complete freedom with which they perform the ritual of procreation before the public eye. In view of all these misdeeds, hygienic and moral, he calls for their extermination. He proposes a systematic "decanisation" of the city. One attempt in this direction was made in the reign of Sultan Mahmoud II, styled the "Reformer," after an English visitor had been nearly eaten alive. The dogs were deported *en masse* to an island in the Sea of Marmora. But the measure was extremely unpopular, and Russia having soon afterwards declared war against Turkey, the populace, excited by the opponents of reform, declared that the reverses of the Ottoman army were due to the removal of the dogs, which were accordingly brought back in triumph. Since then the dogs of Constantinople have never been interfered with. Yet to the good Mussulman who "'lieveth on Mahound" the dog is an unclean beast, and the street dog is never admitted to his house. Yet the people of the poorer class protect the dog, partly out of kindness of heart, partly because they look upon it as a sort of outcast to be defended in accordance with the teachings of the Koran. The Canine Defence League and the many champions of the dog would find a large field for their efforts in Constantinople.

EUGENICS AND DIVORCE.

VERY brief consideration suffices to show that the marriage laws of a country must have a distinct effect on the eugenics of the community. What that effect is in the United States, Mr. Newton Crane endeavoured to show in an address given recently before the Eugenic Society. He stated that long before the term "eugenics" was invented, or the ideas that the word connotes became common—indeed, as early as the days of the Pilgrim Fathers—a desire to secure healthy offspring underlay the marriage laws of the forty-six States of America. In recent years this desire has been translated in sundry States into enactments intended to give it direct effect. The general aim of American legislators would seem to have been to render entry into the married state as easy as they could, while the fact that they had rendered exit therefrom much easier than in most countries is common knowledge. Mr. Crane, indeed, places the ratio of divorces to marriages as high as between 1 to 13 and 1 to 15. On the other hand, he claimed that knowledge of the fact that escape from marriage bonds is possible without disgrace to either party tends to increase the frequency of marriages. He also suggested that the easy dissolution of unhappy marriages promoted eugenics by setting free the respective parties to form unions more likely to result in children healthy both in mind and body. This point he did not labour, and obviously it is one on which there is room for more than one opinion. Indeed, until the general subject of eugenics has been more thoroughly studied it must be impossible to state whether its aims and those of persons desirous of promoting stability of the marriage tie are identical, but sooner or later it will probably be found that the same path leads to the attainment of both ends; at any rate, the history of mankind seems to point that way. Meantime, the discovery of a happy *via media* would appear to be the general object of the appointment of the Royal Commission on Divorce and Marriage, which includes two ladies. Probably no one sees more of the evils of ill-assorted marriages than medical men, and, either on this account or for more specific reasons, the Commission has invited the British Medical Association to give evidence before it. The invitation has been referred, we understand, to a committee; and since there is no representative of medicine on the Commission, it is more than ever desirable that any professional evidence heard should be of a thoroughly well-balanced character. From questions which have been directed to sundry witnesses, some members of the Commission would appear to hold strong views regarding the precise equality of men and women in the matter of sex instinct. Another question of a medical character which has been touched upon is the probable duration of mental disorders, including narcomania in the widest sense of the term.

FRENCH CONGRESS OF PRACTITIONERS.

THE third meeting of the French Congress of Practitioners was held in Paris on April 7th and three following days under the presidency of Dr. Gairal. One of the questions discussed was the free choice of a doctor by members of benefit societies. The Congress passed resolutions to the effect that the freedom of choice of a medical attendant should be absolute, and that a member who could afford to pay should be treated as an ordinary patient. Another question debated was the expediency of raising the scale of medical fees; this has been done in Paris, but not in the provinces. Dr. Bresselle proposed that a campaign with this object should be organized by the formation of local groups which should undertake to have nothing to do with benefit societies, but should only deal with members of these bodies as private patients. This proposal was adopted. It was further resolved that a Vigilance Committee should study the means of instituting in every teaching centre courses of instruction intended to imbue students with the corporate spirit. M. Georges Bertillon read a report on abortion from the medical point of view. He laid down as a principle, to which the Congress agreed, that the profession could not discuss the so-called "right of abortion." He gave figures showing the steady increase of abortion. He estimated that in Paris alone the number of criminal abortions was more than 50,000 a year. At Lyons Professor Lacassagne computed that there were 19,000 criminal abortions among 450,000 inhabitants. Many of these were procured by midwives, but a considerable proportion was to be laid to the charge of doctors. After a long discussion the Congress passed resolutions to the effect that the public authorities should be called upon to take steps for the suppression of the evil, that the number of midwives should be limited, that there should be a regularly constituted service for their inspection, and that a miscarriage or abortion, whether natural or otherwise, should be included in the list of notifiable diseases. It was further resolved that the public authorities, municipalities, and infant protection societies should give moral or pecuniary help to women about to become mothers, in order that they should not shrink from the duties of maternity; and that the public authorities should grant to large families assistance proportionate to the number of children. After Dr. C. Levassort, of Paris, had read a paper on the repression of unqualified practice, an animated discussion took place on the question of medical teaching; it ended in the passage of a resolution asking for he suppression of the post of *agrégé*

professor as being opposed to the interests of students, of medical teaching, and of the profession. This is the expression of a widespread feeling that medical teaching should no longer be a monopoly of officialdom. Another lively debate ended in the passage of a resolution asking for the establishment of a Superior Medical Council, to consist of members of the teaching bodies, delegates elected by the various professional associations, and of students' associations, the latter only taking part in consultations. The most important debate was, perhaps, one on hospital abuse, introduced by Dr. Louis Régis of Paris, who urged more complete organization for the defence of the rights of the profession; closer union between hospital staffs and general practitioners, for the purpose of discovering abuses; and the refusal by hospital physicians and surgeons to treat well-to-do patients.

THE HELIOS THERMAPHOR.

We have not the faintest idea what the Helios Thermaphor may be. The name would seem to imply that it is a machine for the conveyance of heat from the sun. If that is so, it would be a boon to the dwellers on this fog-wrapped island; it might enable us to feel, even if we do not see, the sun. Whatever the apparatus may be, the following letter received by a very eminent surgeon, who has forwarded it to us, may amuse our readers: "As I know very well that you interest yourself of all novelties worth of consideration, and as I appreciate in the highest way your judgement, I beg to send you by separated cover a copy of a notice regarding an apparel which I am putting in these days in commerce under the name of HELIOS THERMAPHOR. This apparel figured on these late days at the Congress of phisical Therapeutic of Paris, and was highly appreciated by the first Doctors. As you will see from the description and from the attests of all doctors and privates who proofed it, this apparel for its greatest advantages is very usefull for the phisical therapeutic, which will find in it a quickest mean to cure so many illnesses for which with the actual remedies a long time would be necessary. It is also of extraordinary simplicity and practice, and usefull espacially for fog-countries. I would consider it a great hounour for me to let you see one of such apparel, in order that by using it pratically, you kann persuade yourself of its practise; and I am consequently to your disposition for sending it to you free of Charge." We do not know if the recipient of this epistle has availed himself of the tempting offer to inspect the "Helios Thermaphor Apparel" and persuade himself on its practise. The "notice regarding the apparel" which is referred to, did not reach its destination; we are therefore unable to enlighten our readers as to its nature and mechanism. All we can say is that the letter bears at its head the name of "Gallo Claudio," who writes from Turin. Of the said classically named gentleman we regret to have to confess that we know nothing.

Medical Notes in Parliament.

The Medical Commissioner of Prisons.

On Friday in last week on Report of Supply an interesting debate was raised by Sir Henry Craik on the recent appointment of a Prison Commissioner to succeed Dr. Donkin, who retired under the age limit. He contended that if by common consent certain offices had been reserved for those who have medical qualifications, the traditions based on general consent should not be lightly departed from. A very considerable public interest was involved in the fair treatment of a great profession like the medical profession. In this case the private secretary of the late Home Secretary (Viscount Gladstone) had been appointed. Sir H. Craik argued that in the delicate and responsible duties devolving on prison medical officers it would be of great benefit if one of the Prison Commissioners were himself a medical man. He pointed out that in Grand Committee in 1898 a provision was inserted in the Prisons Bill of that year, providing that one of the Prisons Commissioners should always be a medical expert. In the subsequent debate in the House the insertion of the provision was only omitted on the understanding that the then Home Secretary would appoint a Medical Commissioner, and that his successors would probably follow that rule. He contended that it was a mere subterfuge to say that the retiring Commissioner would still advise; the medical element ought to be maintained in the Commission itself.

Mr. Joseph Pease defended the action of the late Home Secretary, and said that he had specially looked after medical interests by retaining Dr. Donkin as special adviser at a special salary of £200 a year after his retirement. He would now attend solely to medical matters, and so be able to do more than when his time was largely taken up by other administrative work.

Mr. Balfour refused to accept the defence offered, and made a strong speech against the course pursued, which, he said, was not consistent with the attitude adopted by the members of the present Government in 1898, when they regarded the appointment of a Medical Commissioner as most important.

Mr. Masterman defended the action of the Government, and objected to the appointment of a most efficient Commissioner being described as "an administrative scandal."

Dr. Hillier quoted the opinions of Mr. John Burns in 1898 in favour of having a medical expert on the Prison Commission, and the strong reasons he gave, especially from the point of view of mental diseases.

Sir William Collins supported this view, and said that there was more reason for a Medical Commissioner now than in 1898 on account of the passing of the Inebriates Act.

As Sir Henry Craik's amendment was out of order no division could be taken, and the matter dropped.

On Monday last the matter came up again at question time. Sir Henry Craik had a question on the Paper asking why the vacancy had not been filled by a medical man in accordance with the official minute made in 1898 on the demand of members of the present Government, but had been filled by a gentleman who acted as private secretary to the late Home Secretary. As a discussion had already taken place, he did not put his question. The Home Secretary said that as the question contained some statements which were inaccurate, he should like to have permission to answer it. Sir Henry Craik retorted that it would have been better for the Home Secretary to have been present when the discussion took place on Friday, and in answer to the Speaker he declined to put the question.

The Speaker ruled that there could be no answer given.

Subsequently the Home Secretary said: May I, Mr. Speaker, with great respect, submit to you a point of Order with reference to question No. 31 on to-day's Order Paper, which stands in the name of the hon. member for Glasgow University (Sir Henry Craik), but which was not asked by the hon. member, and which, having regard to your ruling, could not be answered? May I, with great respect, submit to you the footnote to Rule of Procedure No. 57, which says: "A Minister may, if he thinks fit, on the ground of public interest, answer a question appearing on the Notice Paper although it be not asked"? May I respectfully say that the public interest involved in this question is that it reflects upon the position of my noble friend, Lord Gladstone, my predecessor, and as that reflection appears upon the Paper, I was anxious that a proper answer should be given to it upon the same day? May I ask your ruling again?

Mr. Speaker: We had a debate of considerable length on this subject on Friday, when a full statement was made by the Under Secretary, and I presume the Under Secretary said everything that was to be said on that occasion. If he did not say all that could possibly be said it was his own fault. The House had a full opportunity of discussing it, and the Under Secretary had a full opportunity of stating all the reasons, and nothing fresh has occurred since.

Medical Treatment of School Children.—Sir William Collins asked the President of the Board of Education whether an application had been made by the London County Council for the recognition of attendances at hospitals of school children for medical treatment as attendances at school for grant purposes in the same way as recognition was given in respect of their withdrawal for purposes of medical inspection; and whether he proposed to obviate the loss of grant, which would otherwise be incurred in carrying out the provisions of the Education (Administrative Provisions) Act, 1907, by including in the Code for 1910–11 a provision for such recognition in respect of medical treatment similar to that made under Article 44 (*h*) in respect of medical inspection. The President of the Board of Education replied that the answer to the first part of the question was in the affirmative. As regards the second part of the question, he was not prepared to extend the scope of Article 44 (*h*) of the Code, as suggested. He was not satisfied that a case had been made out for such an extension of the scope of the Article, and he was unwilling to add to the complication of the present system of grants.

Vivisection.—A bill to provide for the total abolition of vivisection was presented last week by Mr. Hodges, and supported by Mr. Brace, Mr. Tyson Wilson, Mr. Charles Duncan, Mr. Collins, Mr. Parker, Mr. John Wilson, Mr. Thorne, Mr. Gill, Mr. Hudson, and Mr. Albert Stanley. Friday, June 3rd, was fixed for the second reading. On the same day Mr. Ellis Griffith presented a bill to empower a court of summary jurisdiction to dispose of dogs which have been ill treated. The short title of this bill is Cruelty to Animals (Amendment) Bill.

University of London (Senate).—Mr. Bradford asked the Secretary to the Treasury what was the number of members of the Senate of the University of London, and how many of these held any office or appointment as professor, lecturer, examiner, principal, or provost, any portion of whose emolument was paid directly or indirectly by the university. Mr. Hobhouse replied that the Senate was constituted in accordance with Section 12 of the Statutes made for the University of London by the Commissioners appointed under the University of London Act, 1898, and consisted of the Chancellor, the Chairman for the time being of Convocation, and fifty-four other persons. He was informed that of these fifty-six persons eighteen held office or appointment under one or more of the heads specified in the question, and were in receipt of emoluments paid directly or indirectly by the university.

Vaccination Proceedings (Leicester). — Mr. Crawshay-Williams asked the President of the Local Government Board whether his attention had been called to the fact that in the Leicester borough police court on April 20th, the vaccination officer of Leicester informed the magistrates that he was ordered by the Local Government Board to take proceedings under Section 31 of the Vaccination Act, 1867, even though such proceedings might have been taken under Section 29 of the Act; would he say on what date such order was issued, and whether it was a general order to all vaccination officers. Mr. Burns replied that no order had been issued in regard to this particular matter. He found that the question of procedure under the two sections mentioned had been discussed on more than one occasion when one of the Board's medical inspectors had been inspecting vaccination in Leicester, and that the inspector did not dissent from the view of the vaccination officer that in the circumstances then obtaining procedure under Section 31 was preferable.

Vaccination Act, 1907 (Declarations).—Mr. Pointer asked the President of the Local Government Board if he could state approximately how many declarations were made under the Vaccination Act, 1907, during the year 1909. Mr. Burns answered that the number of declarations received by vaccination officers during 1909 was approximately 190,690.

Poor Law Reform (Ireland).—Last week Mr. Birrell, in answer to several questions as to the introduction of a Poor Law Reform Bill for Ireland, said that nobody was more anxious than he to pass a measure of this kind, but, unfortunately, when it came to be investigated, it contained many particulars of a highly controversial character, although there were many others on which apparently very general agreement existed. It was impossible in this session to introduce a controversial measure of this kind. In answer to Mr. John O'Donnell, the Secretary to the Treasury stated that the expenditure in respect to the Poor Law Reform (Ireland) Commission, which was appointed in 1903, amounted to £3,532. The figure was exclusive of the cost of office accommodation and of the printing of the report for Parliament, which could not be precisely ascertained without further inquiry.

Lead Poisoning.—Last week Mr. Clynes asked the Secretary of State for the Home Department whether the two cases of lead poisoning at Pilkington's Tile Works, Manchester, recently the subject of inquiry, stood alone; and whether he would cause investigation to be made as to the amount of raw lead used in the glazes at Pilkington's. Mr. Churchill said that, besides the two cases referred to in the question, only one of which, however, was found by the medical referee to be a case of lead poisoning, communications had been received calling attention to the cases of two other workers at these works. Both cases had been investigated, and in neither had any grounds been found for regarding them as cases of lead poisoning. With the exception of a case in 1903 of a man who, after a short period of employment at these works, died as a result of disease set up by long-continued work in lead processes in other works, there had been no cases at these works since 1899; and the arrangements at the works were exceptionally good. He saw no ground for issuing any special instructions to the Factory Department in the matter.

Motor Ambulance Service (London).—Sir William Collins asked the Secretary of State for the Home Department whether he was prepared to sanction the co-operation of the police in the manner recommended by the Departmental Committee of 1906–9 in the event of the London County Council establishing a rapid ambulance service, summonable by telephone, in accordance with their powers under the Metropolitan Ambulances Act of 1909. Mr. Churchill answered that he had not any information as to the intentions of the London County Council in this matter, but he need not say he should be happy to give his best consideration to any proposal that might be put before him, with every desire to sanction, as far as may be practicable, the co-operation of the police. In answer to a further question put by Mr. Hay Morgan as to the use of hand-stretchers of conveying injured persons to hospitals, Mr. Churchill said that hand-stretchers had not been used for this purpose by the Metropolitan Police for many years, but wheeled litters of an approved pattern were so used. The London County Council last year obtained Parliamentary powers for the provision of motor ambulances, and he understood this question was now engaging the attention of the Council.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

ANTIVIVISECTION MEETING IN DUBLIN.

THE Right Hon. Lord Justice Cherry presided at a meeting of the National Antivivisection Society in Dublin on April 20th, and in his preliminary remarks expressed the opinion that the Research Defence Society had for its object the promotion of vivisection, and should have the courage to take a name indicating what its real object was. He added that another of its objects was to give it out to the public that the members of the Antivivisection Society were opposed to the promotion of science, whereas in his opinion the recommendations of his society would in no way interfere with the advancement of knowledge. He was followed by the Hon. Stephen Coleridge, who elicited applause by asking why, if vivisectors were right in saying that torture did not go on, they should object to a bill for preventing torture. The Hon. Stephen did not, however, have it all his own way, as when he had finished Professor W. H. Thompson rose to combat several of his statements. Professor Thompson said that Mr. Coleridge had made statements reflecting on the humanity of the medical profession, but the profession yielded to none in their humanity. He added that many of his own experiments were performed before a class of from 50 to 100 students, and that, as many of those were most sensitive to cruelty to animals, it was unreasonable to suppose that if cruelty were practised none of them would protest. This was met by the stock argument that such a protest would ruin the student's career, and in consequence apparently all a student can do is to write to Mr. Coleridge, who, of course, as he says, does not give him away. The mental type of the audience present may be judged from the fact that they preferred to accept Mr. Coleridge's views concerning the value of antitoxin for diphtheria, instead of those of the vast majority of the medical profession as expressed by Professor Thompson.

We hope that Professor Thompson's powerful arguments will have impressed some of those who heard him speak, and we commend his action in attending this meeting to the attention of both lay and professional members of the Research Defence Association. Much good might be done if influential laymen would bear testimony in the enemy's camp to the importance they attribute to animal experimentation.

WOMEN'S NATIONAL HEALTH ASSOCIATION.

There was a large gathering of delegates at the third annual meeting of the General Council of the Women's National Health Association, over which the Countess of Aberdeen presided, in Dublin, on April 19th and 20th. The annual report revealed a most flourishing condition, there being now 168 branches of the association and nearly 18,000 members, while the reports of the work done by the tuberculosis caravan, the Pasteurized Milk Dépôt, the Sutton Holiday Home, and the Hospitals Tuberculosis Committee were decidedly encouraging. In commenting on the report, Lady Aberdeen stated that two new institutions, having for their object the prevention and suppression of tuberculosis, would soon be established in Dublin through the generosity of American friends. One of these, to be named the P. F. Collier Dispensary, had been provided for by Mr. R. J. Collier in memory of his father; the second would be used as a hospital for advanced cases of consumption. It would consist of a portion of the Isolation Buildings, Pigeon House Road, which the corporation had permitted to be thus utilized, and would be named the Arthur Ryan Hospital. Already attempts were being made to establish local sanatoriums in other parts of Ireland, notably in Carlow and Kilkenny, and the suggestion had been made that the Local Government Board should insist on every county providing a local consumption hospital in association with the county infirmaries.

After the various reports had been received, a number of important matters were discussed. Following upon a lecture by Professor T. Jones of Belfast on "The Need of Medical Inspection in Schools," a resolution to the effect that it is desirable that the system of medical inspection of school children now established in Great Britain should be extended to Ireland was carried, and later the association decided to petition the Irish universities in favour of the inclusion of domestic science in their curriculums on the same lines as have been adopted in King's College in connection with London University. Attention was also drawn to the danger arising from the law that ships taking out emigrants to America must bring them home free of charge if they develop consumption within three years. Evidence was advanced to prove that the return to Ireland of advanced tuberculous cases often led to extensive dissemination of the disease, and with a view to obtaining more accurate information on the subject, a request has been made to the Registrar-General to add to his returns a column showing when the cases of tuberculosis contracted the disease. The Association and its President are to be congratulated on their record of work done, and on the hopeful energy with which they continue to attack important health problems.

EXAMINATIONS AT UNIVERSITY COLLEGE, CORK.

The series of university examinations which took place during the first fortnight in April in University College, Cork, mark the beginning of a new era in university education in the south of Ireland. Hitherto students have had to travel to Dublin to stand their examination, but now they can be examined in Cork by the college professors in association with external examiners. The same external examiners who come to Cork have also co-operated with the professors in University College, Galway, and this uniform standard between the three colleges has been maintained. The external examiners—who are drawn from Ireland, England, and Scotland—expressed their entire satisfaction with the arrangements made for the examinations. The first ceremony of conferring of degrees will take place on May 11th, 1910, at University College, Cork.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

THE LATE DR. JOHN SMITH, EDINBURGH.

THE funeral of the late Dr. John Smith took place on April 20th, from the Parish Church of St. Andrew's, Edinburgh, in which he had been christened and of which he had been for years Senior Elder. There was a very large congregation of the medical, dental, and legal professions, and of the general public. Among the public bodies represented were the Royal Colleges of Physicians and Surgeons, the Royal Infirmary, the Royal Hospital for Sick Children, the Dental Hospital and School, the British Dental Association, the Odonto-Chirurgical Society, the Edinburgh Dental Students' Society, and the Kirk Session of St. Andrew's Parish Church. The Rev. George Christie and his Assistant conducted the service both in the church and at the grave. The pall-bearers were Dr. Smith's three sons, his two sons-in-law (Dr. Parker and Dr. Guy), his two old friends, Sir Henry Littlejohn and Dr. Claud Muirhead, and Mr. R. Liddle, who had been his butler for very many years. At the weekly meeting of the managers of the Edinburgh Royal Infirmary, on April 25th, a minute of appreciation of the late Dr. John Smith was unanimously adopted.

MEDICAL TEACHING IN ABERDEEN UNIVERSITY.

An important question affecting the medical teaching in this university was raised at the meeting of the general council on April 16th by Professor McKendrick, convener of a subcommittee on the draft ordinance of the court relating to degrees in medicine. In submitting its report, he said that he recognized the very great ability and skill shown by the members of the Senate, Medical Faculty, and Court in framing the ordinance, and he had not the slightest hesitation in saying that, even with the modifications suggested, the ordinance would tend to the prosperity and

advancement of the medical school and prestige of the university. A similar ordinance had been carried through by the University of St. Andrews, and he heard that the University of Glasgow was busily engaged on an ordinance very much on the same lines. He had had no communication from Edinburgh, but he had no doubt they were engaged on the same matter. One of the recommendations of the subcommittee was designed to relieve the overcrowding of the medical curriculum; the committee recommended that the subjects of botany, zoology, physics, and chemistry be removed from the curriculum, and be passed at a preliminary scientific examination before the student began the study of medicine. The report, with the various alterations adopted, was approved and sent to the University Court.

LABOUR COLONIES.

It is interesting to note that His Majesty's Inspector of Constabulary for Scotland states in his annual report that it would seem advisable that further steps should be taken to cope with the large number of tramps, vagrants, and professional beggars. According to the half-yearly census taken by the Scottish police in June, 1908, there were 10,199 vagrants at large, 1,541 of whom were children under the age of 14; and in June, 1909, there were 10,474 vagrants, of whom 1,539 were children. A large proportion of these are offenders who commit petty thefts and beg, and cause considerable damage by fires when they lie out about stackyards and outhouses at night. They might also be a ready means of spreading small-pox and other infectious diseases. Isolated efforts by local authorities could not succeed. If the matter were dealt with as a national question and a scheme of labour colonies devised for the adults, with industrial schools for the children, the expense should not be great, if, indeed, in the end it might not prove an economical measure, for there would be a large economy in prison and police accounts. Great expense was now incurred in prosecuting, escorting, and maintaining in prison offenders of these classes, and much of the constables' time was occupied in watching and dealing with them. Loafers in towns, some of whom were continually in and out of poorhouses and often in prison for petty offences, might be included in the same category for the same treatment. The inspector's observations are in keeping with the recommendation of the Royal Commission on the Poor Law, and are deserving of consideration by the authorities.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

FURTHER arrangements for the medical treatment of school children in the outlying districts of the metropolis came before the Education Committee of the London County Council on April 29th. The Wandsworth scheme, published in full in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of April 2nd, p. 142, was approved. It was pointed out that no provision had been made for the compilation of results in the case of this or of the Hampstead and Norwood schemes, and the Chairman of the Committee promised to bring up a special report to the Council on the matter.

It was reported that the agreement with the Hampstead Council of Social Welfare for the free treatment of children in that district for three months came to an end in March, 167 children having received medical attention. An expression of thanks had been conveyed to the Council of Social Welfare. It will be remembered that treatment in Hampstead is now being provided by the local medical men. The subcommittee expressed no opinion upon the experiment now terminated.

A letter was received on March 3rd from the authorities of the Royal Westminster Ophthalmic Hospital withdrawing the offer, accepted by the Council last July, to provide for one year treatment for 2,000 children free of charge. The scheme was begun in August, 1909. The governing body of the hospital expressed its willingness to consider any suggestion the Council might make. The Children's Care Committee understood that the hospital authorities would be prepared to continue treatment in return for financial aid. In view, however, of the proximity of the Royal Westminster Ophthalmic Hospital to Charing Cross Hospital, where provision had been made for 1,000 cases, and to the provision made at other neighbouring hospitals, the committee thought it would not be possible at present to ensure that sufficient cases would be available to justify entering into a financial agreement. The committee recommended that the authorities of the Royal Westminster Ophthalmic Hospital be thanked for their assistance, and informed that, in the event of additional accommodation being required, the Council would be glad to renew negotiations. This was approved.

The Children's Care Committee reported also the receipt of a letter, dated March 8th, from the British Medical Association, protesting against the arrangements made by the Council with the hospitals for medical treatment, and stating that the experience of medical practitioners showed the insufficiency of inquiries by hospital almoners to establish in all cases the ability or inability of parents to pay for treatment. The committee had informed the Association that the Council's method, before children were referred to hospitals, was that local care committees and head teachers should satisfy themselves that the cases were suitable for hospital treatment. There was therefore a double check against the abuse of hospitals.

The Education Committee decided to issue advertisements inviting applications to fill vacancies for twenty-four assistant school doctors. Hitherto it has been stated in the advertisements that promotions to the posts of school doctors would be made from among the assistant school doctors, but in order to preserve freedom of action the committee proposed to omit this statement. Under the scheme adopted in November, 1908, holders of appointments as school doctors or assistant school doctors are not eligible for reappointment after three years' service.

At the meeting of the London County Council on April 26th Mr. Hayes Fisher, chairman of the Finance Committee, in introducing the annual estimates of income and expenditure, pointed to the cost of teachers' salaries, the feeding of necessitous children, and medical inspection and treatment as likely to bring about a continued rise of the education rate, which this year was 1s. 8¼d. in the £, an increase of ½d. In respect of medical inspection and treatment £21,000 had been included in the present estimates. Nothing had been included in respect of dental treatment; it must be expected to be an item in future estimates.

HOSPITAL QUESTION AT WIMBLEDON.

At the fortieth annual meeting of the Wimbledon Cottage Hospital subscribers held on April 24th, Mr. J. F. Schwann, Chairman of the Committee, said that the council of the South Wimbledon Institution had resolved to build a new hospital for twenty-four beds at The Rush, Merton, outside the borough, and still farther away from the middle of the town, while the North Wimbledon Committee had resolved to extend the hospital at Copse Hill. He greatly deplored the decision of the South Wimbledon Committee, and said he would have preferred that the funds and interests had been combined, and a large hospital built on the site at North Wimbledon, a receiving room only being kept up in South Wimbledon. He reviewed the negotiations, and said he had been strongly in favour of one hospital, but this was now out of the question. Dr. Bates, one of the committee, remarked that as Wimbledon was not a manufacturing town it did not matter whether the hospital was in the centre of the town or not, and he saw no reason for its being so situated, as most of the surgical cases were not emergency or accident cases.

MANCHESTER AND DISTRICT.

Medical Inspection of School Children in Salford.

At the end of March the Salford Education Authority received a letter from the Board of Education setting forth further requirements in regard to the medical inspection of school children, and stating that, pending the receipt of satisfactory proposals, the Board was not in a position to express satisfaction with the provision made for medical inspection. The subcommittee that deals with the subject reported that, in order to comply with even the present requirements, another part-time medical officer was necessary, while for the prospective requirements another whole-time medical officer would be needed. The subcommittee recommended that if the authority decided to do anything further, a whole-time medical officer should be appointed. A resolution was also passed that representations should be made to the Board of Education in regard to the large and increasing expenditure for education purposes, and stating that without assistance from imperial sources the committee could not see its way to meet the requirements of the Board. It was also decided that the representatives of the council on the Municipal Corporations Association and the Association of Education Authorities be requested to take steps to obtain some joint action on the subject. A member of the committee said that the committee had no objection to this work, though it was not distinctly educational. If the Board of Education made a grant it would want to interfere more, and it would be a great misfortune if the elementary education of the country was controlled by the London authority. The Mayor endorsed these remarks, and said that many additional charges were being imposed on the people at the impulse of the Government which were more national than local, and a medical member said that the work might be of interest to the statistical department of the Board of Education, but was of little interest to the parents of the children of the ratepayers.

According to the latest published report, the arrangements for medical inspection in Manchester for the year 1909 were as follows: The staff was to consist of a school medical officer, one woman assistant medical officer, three men assistant medical officers, each devoting full time to the work, together with one part-time medical officer specially engaged in infectious disease work. To assist these medical officers there were to be five school nurses, and it was calculated that about 18,000 children would have to be examined out of a total school population of 110,000.

In Salford there is a school medical officer, who is the medical officer of health, a whole-time assistant medical officer, a part-time ophthalmic surgeon and two school nurses, and while about 25,000 scholars were inspected as whole schools, 1,761 were specially examined at the education offices. The Board of Education, however, said that the scheme for inspection in Salford did not comply with the code "inasmuch as it did not provide for medical examination of the obviously healthy, although it did provide for examination by trained nurses under medical inspection," and a new scheme was therefore submitted providing for medical examination of all children from 5 to 6 and from 12 to 13 years of age, as well as a general inspection of all the scholars.

Opticians and the Medical Profession.

The question of establishing a federation of optical societies in Great Britain, the ultimate aim being to secure a legal status for qualified opticians, was considered at a conference of representatives from eight organizations held at the Albion Hotel, Manchester, on April 20th. The following societies were represented: The National Association of Goldsmiths, the Optical Club, London; Manchester and North of England Optical Society, West Riding Optical Society, Scottish Optical Society, Glasgow Optical Association, Northern Counties Optical Society, and the Midland Optical Society. Mr. J. C. Kidd, President of the Manchester Society, who occupied the chair, said that the conference had been called to consider a resolution passed by the members of his society to the effect that in view of the unsatisfactory condition of the optical industry it was desirable some form of federation should be established between the various optical societies of Great Britain, the ultimate aim being to secure a legal status for qualified opticians. Mr. Kidd said that a more subtle enemy than a Medical Acts Amendment Bill had to be faced. He argued that malicious prosecutions were directly or indirectly instituted by medical practitioners against opticians for alleged unskilful treatment of cases. Unless opticians were prepared to unite and work together for a common purpose he was sure they would be subjected to a great deal of persecution in the future. They had only to consider the influence which was being exercised in the day schools and the hospitals to find how the medical profession were attacking them at every possible point. As it seemed hopeless to expect an amalgamation between the Worshipful Company of Spectacle Makers and the British Optical Association, the time had come for the different optical societies in the country to combine for the protection and advancement of the interests of opticians. It seemed to him absurd they should submit themselves for examination by the two bodies he had named without their having any legal recognition. Mr. Kidd concluded by moving a resolution to the effect that the societies represented by delegates at that conference were in favour of establishing a federated body of the members of the optical craft for the purpose of promoting and advancing their interests, and to secure or help to secure a legal status for British opticians.

Mr. T. S. Baird, President of the Glasgow Optical Society, seconded.

In the subsequent discussion Mr. T. W. Mason, of the Optical Club, expressed the opinion that if the opticians had a federation such as suggested, the medical profession would hesitate before attacking them; and if the societies were linked up he did not anticipate there would be much difficulty in their getting the same legal recognition that dentists now enjoyed.

Mr. E. Beaumont, Vice-President of the West Riding Optical Society, referring to the difficulty created by the rivalry between the Worshipful Company of Spectacle Makers and the British Optical Association, suggested that they should be dropped as examining bodies, and a new council formed to which the societies would send representatives according to membership, such council or central board to elect an examining body.

Mr. D. Buchanan, Past-President of the Scottish Optical Society, argued that the question of legislation could wait, as there were other things to be tackled first.

Mr. Baird felt sure that before a status worth having could be obtained a much higher examination was necessary than that set by the two examining bodies.

Eventually the resolution in an amended form, leaving out the reference to legal status, was adopted unanimously.

The conference next considered a draft constitution for the new federation prepared by the President and Honorary Secretary of the Manchester Society, and this was accepted as a basis to work upon. In order to allow the delegates to lay the draft constitution before the members of their respective societies the conference was adjourned.

WEST YORKSHIRE.

Waddilove's Samaritan Hospital for Women.

We have received the following letter:

Sir,—It seems proper that the profession should be informed à propos of your editorial (British Medical Journal, April 23rd, p. 1019) respecting this new women's hospital, that in-patients will be expected to pay for maintenance while in the hospital. The charges are to be at the rate of from 12s. 6d. to 42s. a week. These charges will not be sufficient to meet the

costs of maintenance, but Mr. Waddilove proposes to make up the deficit which, it is estimated, may amount to between £400 and £500 a year, and he further proposes to capitalize a sum which at current rates of interest will suffice to meet the deficit even after Mr. Waddilove's own help can no longer be given. Miss Waddilove and her father feel that the founding and endowing of this hospital is in the nature of a thank-offering for the prosperity which has come to Mr. Waddilove, and is also to some extent a recognition of the help which has come to the Waddilove family through the medical profession. It did not, therefore, occur to them that there could be any objection on the part of the medical profession to their founding and endowing this hospital. I was present at the opening, and pointedly expressed the hope that the new institution would not conflict with the work of any other medical charity in the city of Bradford (meaning mainly the noble Royal Infirmary), and that there would be no overlapping. In his speech, which followed mine, Dr. J. J. Bell explained the views and intentions of the donor, and detailed the information which I have already given you as to how the expenses are to be met. From this you will see that no subscriptions will be asked from the charitable public towards the maintenance of the hospital, and it seems therefore somewhat gratuitous to suggest that any one should have felt himself or herself called upon to consult the medical profession as to Mr. Waddilove's intentions. It was and is a free gift on the part of Mr. and Miss Waddilove, conflicting with the interests of no known charity, and was and is prompted solely by their own heart and conscience, in the exercise of which no outsider could consider that he had any right to interfere.

There is another important point to be considered in this matter, which was also brought out in Dr. Bell's speech. This was to the effect that while the rich and well-to-do are able to help themselves in the matter of medical help, and while the poor who are unable to pay for it are assisted by the medical charities of the city, and the very poor by the very efficient workhouse infirmary, the lower middle class have no provision made for them at all in Bradford. For that matter the interests of this class are not much considered throughout the country. There are many people who, though unable to pay the whole cost of operations and medical maintenance, still would like to contribute some part of these costs, and who, further, do not like to become inmates either of the Royal Infirmary or of the workhouse hospital; and it is to meet the wants of this large class that Mr. Waddilove's munificence takes shape. Further, and as if to prove to demonstration that so far from showing any desire to conflict with the interests of the existing medical charities, Mr. Waddilove is, on the contrary, most generously disposed towards them; he has, besides founding and endowing this new hospital, presented the handsome sum of £3,000 as a contribution towards the cost of the new Royal Infirmary which the Bradford citizens are in the act of supplying, and towards the cost of which they have already raised upwards of £70,000.

Your observation that only one medical officer has been appointed in connexion with the new hospital is not quite correct. Dr. Rowe has been appointed anaesthetist with a small honorarium, and Dr. Webb, a brilliant student of St. George's Hospital, has been appointed surgical registrar.

I am, yours faithfully,

Bradford, April 25th. A. RABAGLIATI.

BIRMINGHAM.

THE NURSING SERVICE OF THE FIRST SOUTHERN GENERAL HOSPITAL.

THE annual meeting of the General Committee of the Nursing Service (Territorial Force) of Warwickshire and Worcestershire, was held at the Council House, Birmingham, on April 20th, under the presidency of Lady Jane Carleton. The object of the Committee is to provide the nurses for the First Southern General Hospital. The Honorary Secretary, Lieutenant W. A. L. Holland, in reporting on the work of the Committee, stated that the establishment of a Ladies' Nursing Service Committee allowed in time of peace was 120, and the number required for duty on mobilization was 91. The principal matron, Miss Buckingham, reported that during the first year 115 ladies had been enrolled on the nursing staff, namely, 2 matrons, 24 sisters, and 89 nurses. The two matrons are Miss Musson, Matron of the General Hospital, Birmingham, and Miss Armour, Assistant Matron at the General Infirmary, Worcester.

The badges were presented to the nurses at the Council House, Birmingham, on the same day by the Marquis of Hertford, Lord Lieutenant of Warwickshire, who was received by a guard of honour composed of the Royal Army Medical Corps of the First Southern General Hospital, and of other local units, under the command of Major Sawyer. The Lord Mayor, who presided, explained that the nursing section of the Territorial Force for Warwickshire and Worcestershire was formed about eighteen months ago, when, thanks to the efforts and enthusiasm of the late Marchioness of Hertford, the movement was well taken up, and the full number of nurses enrolled.

The Marquis of Hertford, before presenting the badges, reminded them that the Queen was the President of the Nursing Association, and that when Her Majesty distributed the badges to the nurses in London she intimated that it was her wish that that act should be taken to represent the distribution to all the nurses throughout the country. The badges were then distributed to the principal matron, the two matrons of the hospital, and to about ninety sisters and nurses. Lady Jane Carleton proposed a vote of thanks to Lord Hertford on behalf of the Ladies' Committee of the Territorial Nursing Section.

Lieutenant-Colonel Jordan Lloyd, Administrator of the 1st Southern General Hospital, in seconding the vote of thanks, explained that the scheme of mobilization of the hospital was so complete that it could be called into existence as an active working machine in a very few days should occasion arise, and within a short distance of the centre of Birmingham a general hospital fully equipped and perfectly mobilized, containing 520 beds, would be ready. The medical staff would consist of well known physicians and surgeons, all of whom gave their services willingly, and were ready to do what was required of them at any time. The duties of the nurses would be very much on the same lines they were accustomed to in city hospitals, for not more than half the cases would be gunshot and sword wounds.

Miss Haldane, in proposing a vote of thanks to the Lord Mayor, said that the Territorial Army could not be complete without a most efficient medical service. There was the field ambulance in front, and as the sick and wounded were taken to the rear the Red Cross organization came in to convey them down to the base. But when they got there they must have thoroughly good and efficient hospitals ready for mobilization. Miss Buckingham seconded the resolution, and spoke of the good progress the nursing service had been making.

All the nurses and guests were entertained at tea by the Lord Mayor and Lady Mayoress.

Sydney.

[*FROM OUR SPECIAL CORRESPONDENT.*]

NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

THE annual meeting of the New South Wales Branch of the British Medical Association was held on March 18th. The report of the council, which was taken as read, recorded another very satisfactory year's work. The number of new members elected was 110; five members died. Good progress is being made with the new premises for the association, and it is expected that the building will be ready for opening about September next. The retiring president, Dr. H. C. Hinder, in his presidential address, after dealing with some of the general business which had occupied the attention of the Branch during 1909, proceeded to give a short review of some of the more important advances made in surgery during the past year. He instanced the newer method of treating septic peritonitis by rectal irrigation only to condemn it as a universal cure for this disease. He reviewed his own experience in operations for appendicitis and gall bladder disease, and concluded by giving it as his experience that a great deal can be done in cases of surgical tuberculosis by rest in bed with the usual

adjuncts of good food and fresh air. A vote of thanks for his address was passed with acclamation, and the President then announced the election of Dr. J. A. Dick as the new President and Dr. H. L. Maitland as Vice-President. Dr. F. P. Sandes was elected the Representative of the Branch at the Annual Representative Meeting in London next July.

THE SANATORIUM TREATMENT OF CONSUMPTION.

The annual meeting of subscribers to the Queen Victoria Homes for Consumptives was held last week. The annual report stated that at Thirlmere—the home for female consumptives—91 patients had been admitted and 91 discharged during the year. The average number of beds occupied daily was 46. The ages of the patients ranged from 9 to 50 years, and 70 per cent. were between 20 and 40. In 40 cases the disease was arrested, 25 were much improved, 10 were unimproved, and 1 had died. At the King's Tableland Sanatorium for male cases there were admitted 119 patients and 122 were discharged. The average number of beds occupied daily was 46.3. The total number of patients under treatment since the opening of the institution in 1903 was 642. Of the 119 cases admitted this year, 97 came from Sydney and suburbs; the occupations of patients showed, as in previous years, an excess of indoor workers. Of those who had been employed wholly in outdoor pursuits, more than one-fourth had been engaged in dusty occupations. The general results of treatment were that 101 were improved and 17 unimproved. The average residence during the treatment of all cases was 142 days; in 39 arrested cases it was thirty-nine days. Nine ex-patients were admited for a second course of treatment after having left the sanatorium for periods varying from one to four years. Five deaths occurred during the year, 3 from advanced tuberculosis and 2 from cardiac disease. The treatment had been continued on the same lines as in previous years, increased use being made of manual labour as a curative agent in suitable cases. It is regretted that many patients had to return to unhygienic surroundings and unsuitable occupations on their discharge from the sanatorium, and the difficulties of the discharged patients were increased by the prejudice existing against the employment of and association with consumptives. The need of an after-care association was again insisted on. The financial aspect of the report was not satisfactory. The receipts showed donations and subscriptions £2,228 13s. 7d.; bed endowments £3,950; subscriptions, £636 17s. 2d.; Government grant for buildings, £2,000; Government subsidy, £1,000. The expenditure included improvements at Thirlmere, £345, and improvements at King's Tableland, £1,157. The Chairman, in moving the adoption of the report and balance sheet, said that the subscriptions and donations had fallen off by £250, and there was a deficiency of £1,580 on the year's working. The Government at present only gave 10s. in the £, and it was intended to approach the Government in the hope of getting an increased subsidy. The Queen Victoria Homes are the only institutions for the open-air treatment of consumption supported by voluntary contributions in the State, and it is a matter for regret, therefore, that more confidence is not reposed in the good work which is being done at these places. The only institution at present in existence for the treatment of advanced cases of consumption in women is the old women's asylum at Newington, but owing to the active interest of Lady Dudley, wife of the Governor-General, and some others, the New South Wales Government has been induced to vote £10,000 for the erection of an additional wing at the Hospital for Consumptives at Waterfall, for female cases. Although this hospital is erected not very far from the sea-coast, on the South Coast Railway line, results thus far obtained in the treatment of the male cases have been very good, especially as the hospital is intended only for advanced and so-called incurable cases.

INFANTILE MORTALITY.

The report presented to the annual meeting of the Royal Alexandra Hospital for Children showed that 13,426 new patients had been treated in the out-patient department, a very large proportion of which were cases of gastro-enteritis. During the months of November, December, and January last it was shown that there were 120 cases of this disease in the wards, of whom 44 died, 70 were discharged—34 cured, 22 relieved, and 14 unrelieved. Of the 44 deaths 11 died within twenty-four hours of admission to hospital. These figures are lower than for last year, yet they are sufficiently high to arrest attention. Beside the Children's Hospital, the Department of Public Health—under the direction of Dr. W. G. Armstrong, the City Health Officer—has taken a hand in the task of instructing mothers in the treatment of their infants, especially as regards their feeding. On application mothers can procure a pamphlet taken from the publications of the Lady Talbot Milk Institute in Victoria on the subject of how to take care of their babies during the summer months. This pamphlet deals with the necessity of cleanliness in the home, especially of all vessels in which milk is placed and kept, the best methods of feeding, and the necessity for regularity and punctuality in the administration of food. A woman inspector is employed to visit the homes of women who have been recently confined, and to urge upon the mothers the importance of feeding their infants at the breast.

Special Correspondence.

PARIS.

Pharmaceutical Assistance: The Hospitalization of Assisted Persons: The Extension of Official Medical Practice.

IN my last letter I stated the broad features of the organization of medical assistance in France. I did not pretend to make it a finished picture; I sought merely to provide a general notion, for, if I am to attempt sometimes to explain to British medical men the conditions of medical life in France, it is essential that they should understand the warp upon which it is woven. May I now add a few more lines to the sketch I then gave? for I did not mention the pharmaceutical assistance, which is a necessary complement of medical assistance. Whether drugs are supplied by pharmacists, or, as happens in many country practices owing to the absence of pharmacists, by the doctors themselves, they are paid for by the departments at a reduced rate, equal to about one-third of the usual tariff. The doctor marks his visit to an assisted patient upon a special printed form, notes that he ordered medicine, and leaves a prescription which the pharmacist is required to preserve and attach to the report he sends at the end of the year to a special departmental commission charged with the duty of checking the details.

Neither did I say anything in my previous letter about the hospitalization of assisted persons. The cost of hospitalization falls upon the communes; it is a nightmare for the municipalities, and the fear of seeing their budgets burdened with this expense is one of the reasons which makes them so averse to drawing up really correct lists of persons entitled to assistance. Nearly every canton in France possesses a hospital, generally a very ancient institution endowed by the gifts and legacies of charitable persons. The hospitals thus have at their disposal certain revenues of their own, and usually reserve on an average about twenty beds for the inhabitants of the locality. The State in utilizing them for the reception of assisted persons could not in justice impose on them a heavy charge for gratuitous service, and this is a reason why not many assisted patients are sent to hospitals, and why of those who are, most are surgical cases. The admission of an assisted patient to a hospital is ordered by the doctor, who gives a certificate stating the nature of the illness and the reasons which render proper treatment at home impossible. The arrangements for admission are made under the superintendence of the mayor of the commune. In the hospital the patient is treated by the doctor specially attached to the institution, who receives from the administrative committee an

inclusive salary which is not augmented on account of these assisted patients.

If a difficult operation, or if treatment by a specialist be necessary, the patient may be admitted into one of the hospitals of Paris, the requisition being addressed to the Secretary-General of the Assistance Publique. This, however, is not very often done, and, owing to the overcrowding of the Paris hospitals, involves a long and complicated administrative procedure; owing to the decentralization of surgery it is becoming less and less necessary.

I have now given a short summary account of one of the public services, perhaps the most important, recently imposed upon the medical profession in France. It is very far indeed from being the only fresh duty so imposed upon us. The medical profession from a social point of view is experiencing a tendency, more and more pronounced, towards its conversion into an army of functionaries. At every turn the State is demanding some new help from us, and by that I mean not only that it engages some of us in its service for special duties, as, for instance the *médecins légistes*, but that it is setting each doctor within the area over which his private practice extends to do on its account sanitary work, the scope of which is constantly being extended. Whether we will or not, our relations with the public administration are multiplying; this is no doubt in conformity with the trend of social evolution; nothing so nearly touches human interests as sickness; while, on the one hand, pain exaggerates the egotism of the individual, on the other disease spreads to other persons by contagion or through heredity. There is, therefore, no State service for which there is a better justification than for a medical service.

The first public utilization of medicine by the State was to help justice in the discovery of crime. The beginnings of this call upon the services of medicine are lost in the mists of time; during the last century there has been added to it the duty of certifying mental irresponsibility. But, as I have already said, medical jurisprudence demands the services of only a limited number of practitioners, chosen on the ground of their special claims or training. A second administrative service was instituted by the law of December 23rd, 1874, which provided for the supervision of children under 2 years of age who are being brought up by nurses elsewhere than in the parents' house. This law has involved the employment of about half the doctors in France. Districts were marked out in relation to the usual areas of practices, and the duty of inspecting the children was assigned to the doctor of the district, or, where there was more than one, to a doctor chosen by the *préfet*, usually upon the recommendation of his predecessor and not on account of any special qualification. To this duty was afterwards added that of the supervision and care of infants abandoned by their parents and placed by the departmental administration in the care of selected individuals. A new law regulating medical assistance was passed in 1893, and about 1896 its application became general; every doctor without exception is concerned in its administration.

It will be observed that there has been a steady progress towards the conversion of doctors into State servants. Nowadays during almost every session new duties are imposed, or proposed to be imposed on the medical profession for the convenience of the commune, the department, or the State. Thus in 1902 vaccination and revaccination against small-pox was made compulsory and free; at about the same time compulsory notification of infectious and epidemic disease to the *préfets* was instituted. In 1905 free consultations for nurses and mothers were instituted. It is true that this service is as yet imperfect and permissive, but we are invited to hold meetings every month in the *mairies* to which the mothers and nurses are asked to bring their infants for inspection.

Now the sanitary inspection of schools is being organized; it was ordered to be carried out by a law passed in 1886, but its application has been delayed for twenty-four years owing to deficits in the budget. But M. Doumergue, the present Minister of Public Instruction, now proposes to put the law into force.

It may safely be estimated that at the present time an ordinary practitioner must give up one-tenth of his time to the service of public authorities in return for remuneration which is not equal to one-fiftieth of his total earnings. Masses of papers accumulate in his pigeon-holes, for every official duty involves reports, statements, memorandums, and circulars without number, adding to his scientific and professional cares the tedious duties of an office clerk.

To sum up, the medical profession during the last thirty years has been saddled with a new client, the State, which demands much, but up to the present pays hardly anything; a client which has complicated our accounts without adding to our incomes; and a client in dealing with whom it is always necessary vigorously to defend our own interests. Nevertheless, the State is a client we shall be happy to serve for the sake of the public good, if, some day or other, it will consent, without diminishing our independence too much, to recognize our services at their real value.

Correspondence.

SICKNESS AND INVALIDITY INSURANCE.

SIR,—As you point out in your most important article under this heading in last week's JOURNAL, p. 1007, this question will no doubt very shortly be placed amongst the items of practical and urgent politics by whatever Government will be returned to power. That Government will be bound to look to some large organization not only for the elaboration of a scheme but also for its being subsequently carried into effect.

Can our Association create under its auspices a suitable insurance company and so make a bid for the work? If it does not, one or another friendly society will do so and thus further exploit our services for attendance on the whole of the adult working classes. Farewell then to private medical practice on all with £160 or less per annum.

Presuming the medical profession prefers to be under the control of a medical association, there follow two alternative plans for dealing with the premiums received; and here comes by far the most important medico-political question with which the British medical profession has ever been faced.

One plan would be that by which the premium for insuring a working man, entitling him to command all professional services at any time day or night without any further cost, would be paid to a local doctor.

A second plan would be that in which the premiums would be pooled and the doctor would receive remuneration only for actual work done, item by item, there being some deterrent to prevent collusion or abuse.

The first plan would seem to confirm the position of the profession as slaves; the second suggests the recovery of its freedom.

A wrong step at this juncture might prove to be irretrievable and to spell disaster to the rank and file of the profession for all time.

We must be prepared with a scheme before the Government asks for one, so a full discussion in the JOURNAL of the subject is bound to be of the greatest assistance to all of us.—I am, etc.,

London, S.W., April 25th. E. ROWLAND FOTHERGILL.

THE TEETH OF SCHOOL CHILDREN.

SIR,—May I point to certain facts as they appeared to me during the examinations I have been conducting now for many years?

If we would classify the children that attend elementary schools, in regard to the prevalence of caries, we should find first a number of them, fortunately not very many, who are grossly neglected, and who often come under the supervision of the Society for the Prevention of Cruelty to Children. These children have, as a rule, very foul mouths and almost hopelessly decayed teeth.

There is another pitiful number of mentally ill-developed children who stagnate in the lower standards throughout their school career, and who often exhibit striking irregularities in the structure of their jaws and the arrangements of their teeth, and should be better provided in a home apart from the ordinary boys and girls.

Both these classes urgently need dental treatment, but this is outweighed by their more insistent necessities.

At the other extreme we have the children of better-to-do parents, who suffer, perhaps, from an excess of care. They are kept exceedingly clean, tended with considerable anxiety, possess charming manners, so that the process of mastication is not actively executed, and, being given delicate foods, suffer greatly from decay, though their mouths are not foul. These scholars badly require the attention of the dentist, but their parents generally procure those services at their own expense.

Between these smaller categories come the large majority of working and middle class scholars, the bulk, in fact, of our juvenile population. They are kept fairly clean, are much in the open air, given nourishing and not over-refined food, and are not ashamed to show that they enjoy it by a vigorous mastication. As a consequence their teeth are often exceedingly good in quality, with ample space for them in the jaws. But they are for the greater part ignorant of the hygienic necessity of cleansing the mouth, only very rarely have a toothbrush or use a toothpick, and so where there is stagnation of the food débris, as in the crevices and pockets of molars and contiguous incisors, decay soon commences. They only seek dental attention when the pain of an irritated nerve or the unsightliness of an alveolar abscess has driven them to have the offending tooth extracted. They form the bulk of our rejected recruits owing to deficiency and inadequacy of dental organs. It is also a common cause of inefficiency in civil life.

It is clear that any nation which aims at enlightenment by introducing compulsory education should do something to lift the mists of ignorance that surround so simple a subject as the care of the children's teeth, one, too, which lies nearer to their interest and can be begun earlier than the three R's. A very young child can be taught to use a toothbrush intelligently, but there is no provision made to urge its use.

Nor would it tax the resources of the nation unduly to step in at the proper time and perhaps by a simple stopping keep up the efficiency and prevent the suffering that is sure to ensue from neglect. In a vast number of cases we can tell exactly the right time to interfere.

It is scarcely a valid objection to say that because an abscess in the alveolar process of the jaw is not so serious as, say, one in the femur, therefore it need not be prevented. It would rather be a reason for preventing it. For, whereas the result of the successful treatment of a femoral abscess is often a saving of wreckage, in the case of the timely attention to the teeth of school children we are certain of obtaining more efficient citizens.

Moreover, once the ignorance is dispelled, many of the independent working classes, when trade is prosperous, would avail themselves of the services of the private practitioner, and the dentist's art would be much more sought after than it is at present.—I am, etc.,

Manchester, April 26th. B. Saul, M.R.C.S., D.P.H.

THE LONDON POLICE AND QUACKS.

Sir,—With reference to the note under the above heading (p. 1011), you may perhaps allow me to recall the fact that by a case tried before Mr. Justice Lawrance at the Lewes Assizes in November, 1906, it was clearly proved that the great majority of quack medicine vendors could be brought within reach of the law for obtaining money under false pretences. The prosecution was taken up by the Treasury after the first action of the police. The judge in passing sentence of three months' imprisonment with hard labour said he looked upon it as a sort of test case, and he wished the Treasury every success in taking up cases of the kind. "A great and good work would be done by stopping the sale of quack medicines." Not a single prosecution of the same kind has since taken place.

The explanation is not very difficult. There exists no public prosecutor charged with enforcement of the law in this direction, and the constitution of the police renders it very difficult for them to take action. It is only in the metropolitan district, not including the City, that the police is under the Home Office; everywhere else throughout the country it is virtually under the sole control of local authorities. The authorities are called upon to take samples and exercise vigilance under the Food and Drugs Act and the Merchandise Marks Acts, but are not called upon or instructed to take any notice of quack medicines. A tradesman may be fined or sent to prison for selling cigars with a false label, or for passing off margarine for butter. But he may take the grease out of which margarine is made and sell it as an infallible cure for every external disease, including cancer, and he may press the sale by lying advertisements, the most blatant false pretences, without danger of interference by the police or other public authority.

The laws need amendment, but this will never be brought about until the fraudulent, cruel, and murderous character of the quack medicine trade has been demonstrated incontrovertibly before an authoritative tribunal—a very easy task. You have allowed me to point out on several occasions that no help is to be expected from the newspaper press as a body. The great majority of newspapers are knowingly deriving enormous incomes from quack advertisements; they cannot denounce quackery without grotesquely stultifying themselves, and they cannot, or they will not, publish matter of any kind likely to offend their nefarious customers. During the last session the Home Secretary in the House of Commons stated that he was in favour of the appointment of a Select Committee on "patent" medicines. This marks a step in advance in the way of Government enlightenment on the question, and makes more hopeful the prospect of a Royal Commission to inquire into the whole subject. The traffic in nostrums, cures, and bogus apparatus is being made more and more a cloak for practice by unqualified and ignorant pretenders, and any public inquiry which did not include it must prove largely futile. If the Association cares to take up the matter earnestly it can, I am certain, obtain full inquiry in one form or another. It can be proved that quackery, by injuring the public health, forms a source of gain to the profession which cannot be justly charged with sordid motives. But I would urge it is the duty of the profession for the sake of humanity, and even in spite of misrepresentation and calumny, to force this question to the front, to prove its case, and leave upon statesmen and the Legislature the responsibility for the evils laid bare. The political influence of the profession is deplorably small, but if concentrated in the Association, which is able to speak in the name of 20,000 members, it is capable at least of achieving the essential preliminary step I advocate.—I am, etc.,

Earlswood Common, Surrey, April 23rd. Henry Sewill.

CANCER OF THE RECTUM.

Sir,—Having regard to the recent work done in the operative field of rectal carcinoma, it seems a most desirable thing that the correspondence on this serious subject should be continued. I am the more persuaded of this after reading Mr. Bruce Clarke's letter (p. 1023). In the second paragraph he expresses surprise that Mr. Swain should institute a comparison between removal of rectal carcinoma by the lower pelvic route and the abdomino-perineal, and goes on to say:

> In reality there is no comparison between them. It is obvious that every surgeon would prefer to remove those growths that are well within reach by the lower pelvic aperture.

This is the particular point which I am sure needs to be at present thoroughly discussed. In the November number, 1909, of *Surgery, Gynaecology, and Obstetrics*, Dr. William C. Lusk of New York City discusses this very question in a most admirable and exhaustive paper, entitled, A Technique of Resection of the Male Rectum, in which the abdominal route is particularly recommended for low-lying rectal carcinoma. It is a paper which every one who has to operate on these cases will do well to read carefully, and I am sure that much profit will be gained by so doing.

Another most interesting communication recently published in connexion with this important subject is the second Hunterian Lecture on "The Surgery of the Lymphatic System," by W. Sampson Handley. On page 927 of the British Medical Journal of April 16th, where this lecture is reported, the paragraph headed "Cancer Surgery as a Branch of Lymphatic Surgery" should be carefully read in connexion with Dr. Lusk's paper, and especial attention should be paid to Mr. Handley's admirable coloured plate demonstrating by the mucicarmine method the permeation of the mucous lymphatic plexus in rectal carcinoma.

The operation which I have hitherto most frequently done has been either the ano-sacral or ano-coccygeal method as described in my *Surgery of the Rectum*, which is far preferable to any attempt at excision with union of the bowel ends. Yet even here, after the removal of six, eight, or more inches of the bowel, I have been disappointed by the reappearance of the growth in the brought down bowel, and on studying Handley's plate I wonder that such a possibility had not occurred to me.

If these growths are attacked by the abdominal route, and the main points of Lusk's technique (I do not say all) are observed, a much greater length of bowel can be removed and carefully examined at the time of operation to see whether any cancer cells are left in the lymphatic planes as demonstrated by Handley, and the free end of the bowel can then be brought to the anus, or a further portion can be removed, and an iliac anus established according to what the microscope reveals, and dependent on whether the sphincters are or are not involved.

I have this week seen a case operated on by another surgeon a year ago, and typical of the form of recurrence to which I am referring. The immediate result of the operation appears to have been admirable, but the patient has a recurrence at the lower end of the brought down bowel, which seems limited to the mucous membrane and extends up for more than 2 in. There is every probability that the cancer cells extend much further still in the lymphatic planes, and it seems to me that the one chance this patient has is to remove this recurrence, although it is close to the anus, by the abdominal route. And this I propose to do.

Handley's coloured plate is a revelation to me. With this practical fact before one and with the practical technique which Lusk has so carefully worked out, I cannot help thinking that there is a great deal to be said for the abdominal operation in *all* forms of removable rectal carcinoma, whether situated high up or low down, and when one takes one's memory back to many disappointing recurrences, one cannot help wishing that this method had been sooner adopted.

I feel sure that a great stride forward has been made in the operative treatment in this form of cancer by the aid of the work published by the two surgeons I have mentioned.—I am, etc,

London, W., April 23rd. FRED. C. WALLIS.

FAECAL VOMITING DURING ANAESTHESIA.

SIR,—In his valuable communication in the BRITISH MEDICAL JOURNAL of April 23rd, Dr. Dudley Buxton has himself alluded to one formidable objection to the course he recommends. I refer to the fact that in the cases of obstruction with which he is dealing the condition of the patient is already perilous, and that therefore anything which prolongs the anaesthetic and the operation is to be avoided if possible. My object in writing is to emphasize the opinion that we can obviate the dangers so well pointed out by Dr. Buxton by simpler measures than those he recommends, and without any addition to the extent of operation or of time expended. No doubt Dr. Buxton is perfectly familiar with the steps to which I am going to allude, but I am certain that they are often taken without due attention to detail, and that with this attention they are perfectly efficient in abolishing the risk of inhalation of vomited material.

The essential points are: (1) A position of head and neck below the level of the abdomen; (2) a considerable raising by a thick cushion or sandbag of one shoulder and side of chest; (3) a continuously well-opened mouth, with the head turned away from the raised shoulder. If these points are completely attended to it is, I believe, a physical impossibility for material, even the thin black quietly expelled vomit of long-standing acute obstruction, to enter the air passages. The slightly sideways position given to the abdomen by these arrangements is, no doubt, not perfectly convenient for the surgeon. It loads him, however, with much less trouble than that required by the tracheotomy, passage of stomach tube, and careful packing called for by Dr. Buxton's suggested method. Moreover, the latter proposal seems to me to necessitate, as Dr. Buxton suggests, a deeper degree of anaesthesia than need be maintained with the arrangements I recommend. This very deep anaesthesia would be necessitated, I think, by the continued presence of the stomach tube. To what extent the close proximity of a tube in the trachea and one in the oesophagus might cause irritation and trouble from coughing or straining I do not know, but I think here also would be another call for very deep anaesthesia, which it is obviously an advantage to avoid if possible in patients already in a condition of collapse or at least of advanced acute illness. I believe the proper cleansing of the mouth and pharynx after these operations, as a preventive of septic pneumonia, is not usually sufficiently attended to, and allusion to this point is another feature of Dr. Buxton's communication for which I venture to thank him.—I am, etc.,

London, W., April 25th. J. BLUMFELD.

BORIC ACID AND APPENDICITIS.

SIR,—One of the modern puzzles of medicine has been the enormous increase in the frequency of appendicitis. Various suggestions have been made to account for this.

Though, in his very interesting paper on "A New Aspect of the Effects of Boric Acid as a Food Preservative," in the JOURNAL of April 16th, Dr. Bernstein does not suggest such a relationship, yet it appears to me that his observations suggest a more likely cause than has yet been pointed out. He shows that boric acid "prevents objective decomposition, such as is detectable by smell"; that "if objective putrefaction has commenced it inhibits further changes of this kind, possibly leading to a diminution in the smell"; and that it "has a marked selective activity on the various organisms, inhibiting the growth . . . of the *Proteus* group and possibly other harmless saprophytes, though not the organisms of the *coli* group."

It is thus obvious, as he points out, that stale meat may be rendered usable for such purposes as making sausages, notwithstanding that organisms of the *coli* group have obtained access to it, and had "several days to grow; and, what is more important," to grow "unhindered by the prolific saprophytes."

Thus it is quite possible for us to ingest in such foods, especially if imperfectly cooked, a more than ordinarily active type of *B. coli*. Milk, to which boric acid is so often added as a preservative, and which is so often consumed raw, would obviously be especially dangerous.

Such a virulent culture, when it enters the little canal of the appendix and finds a halting-place there, would soon set up that violent inflammation of this small organ which goes by the name of "appendicitis," and which has led to so many dire results.—I am, etc.,

Exeter, April 25th. RUSSELL COOMBE.

MINER'S NYSTAGMUS.

SIR,—During seventeen years' colliery practice in Glamorganshire the miners in my care—about 1,000—were as nearly as possible equally divided between "naked light" and "safety lamp." The former worked in the more superficial seams, averaging 2 ft. 6 in. in thickness, and the latter in the deeper or steam coal seams, averaging 4 ft 6 in. in thickness.

The working posture of hewing coal in the former was generally horizontal, and in the latter nearly always vertical. The coal in the steam coal or safety-lamp seams, owing to the squeeze or top pressure, was usually mined with less arduous labour than the naked-light seams.

The naked light gave illumination so much better than the safety lamp that an extra 2d. on the ton was granted for working with the latter whenever a change of illuminant was ordered on account of the presence of gas. There was very little shadow with the candle, but much and complicated with the safety lamp, especially the more modern.

Nystagmus was practically absent amongst the naked-light workmen, but common, especially after influenza and in alcoholics, amongst the safety-lamp men; and the subjects of this disease were generally ordered to work in naked-light seams in slight attacks, or in the open air if the attack was severe. This treatment was generally successful.

The above would be the experience of all the colliery surgeons whom I know.

Miners of long experience in naked-light seams have

told me that they had never heard of the disease excepting amongst those who worked with the safety lamp.—I am, etc,

Brynmawr, Breconshire, April 25th. J. L. Thomas.

THE MEDICAL SERVICE OF THE TERRITORIAL FORCE.

Sir,—Both "Fair Play" and "Fair Play Secundus" have real financial grievances against the present anaemic Treasury; still I am certain "Fair Play Secundus" does not improve the chances of the corps by belittling "Fair Play's" claim. I have no hesitation in stating that it was the lack of cohesion and *esprit de corps* that retarded the just demands of the old Volunteer Medical Service.

The following points worth noticing occur in the letters of the last two weeks.

1. I much question if the work of the A.M.O. is to a large extent handed over to his staff officer. Personally, I know that replying to the daily correspondence, indexing, copying drafts of letters and circulars take both myself and the staff officer several hours daily. We have to do this amount of clerking, because the annual allowance for rent, typing, stamps, and extra clerical assistance is the very inadequate sum of £20, whilst that for a brigade is £45.

2. As to the size of the command—a mounted ambulance, three field ambulances, a sanitary company, and two general hospitals has an establishment of 998; add the water purifiers and a total of considerably over 1,000 is reached. Each unit requires considerable clerical attention, nearly as much as a battalion.

3. Regulations and certainly experience proves "Fair Play" is right and "Fair Play Secundus" wrong as to the appointing of medical officers to combatant units. Paragraph 20 states the County Associations forward A.F. E 536 to the Secretary of State for War, but then the A.M.O. has to attach the officer to a combatant unit.

4. I question the statement as to examinations—namely, "Subject, of course, to formal consent of A.M.O." Let me take seriatim the points "Fair Play Secundus" raises: (*a*) When candidates are ready the A.M.O. forms a board; after this board has met, examined, and reported, it is the duty of the A.M.O. to critically go through the papers and satisfy himself that he is convinced no one has been over or under marked, and so can honestly confirm the report of the board. That alone takes hours, but by doing this the A.M.O. gets an intimate knowledge of the mental power of the N.C.O.'s. (*b*) Then the successful candidates have to be entered in the divisional records and published in the divisional corps orders.

Perhaps "Fair Play Secundus" does not realize that the A.M.O. of his division is to be a reality—is in a position similar to that of the officer in charge of records of a corps; that the keeping of these records, distribution of corps numbers, general administration, and supervision over the units under his command not only means labour but expense, and yet has no allowance for his daily journey to and from the office.

5. I fail to follow "Fair Play Secundus" in his statement: "The arrangements for attendance at camp O.C.'s medical units again know to their sorrow that the A.M.O. is not unfortunately able to help them in this very heavy task." The G.O.C. decides where the medical units will camp; the A.M.O. draws up a scheme for their training. Surely the interior economy of the unit lies with the O.C., who has nine officers to help him—that is, one officer to twenty-five men.

6. I quite agree with "Fair Play Secundus" that the financial grant is insufficient for efficiency; but I think he would have acted more wisely by adopting the tactics of Oliver Twist and persistently asked for more, instead of advocating his claims by the disparagement of the A.M.O. "Fair Play Secundus," should he become A.M.O, will quickly realize this position may cause him to put his hand into his pocket for more than one unit.

All "Fair Play" asks for is that the A.M.O. and his staff officer should be treated on the same lines as other officers of similar rank and doing similar duties are. As there are only fourteen A.M.O.s at the most, the additional allowance to pay now issued would be under £1.500, and this would satisfy A.M.O.s and their staff officers.—I am, etc.,

Friars House, E C., April 25th. P. B. Giles.

Sir,—Your correspondent, who writes under the misleading pseudonym of "Fair Play Secundus," can have only a very erroneous idea of the work devolving upon an A.M.O. of a large country division.

This is rather understated than otherwise by your correspondent "Fair Play" in the Journal of April 16th. I do not know who the writer is, but his concise and clear description is perfectly correct, and, to save recapitulation, I would ask any reader who has not seen it to refer to his letter.

The idea of comparing the units administered by the A.M.O. with an infantry battalion is enough to show the utter unfairness or ignorance of the first-named writer. The medical units under an A.M.O. of a divisional area are as many as eight, scattered, it may be, over six or more counties, and many of these units have several out-stations. They are highly technical and varied in their requirements—for example, the training of the bearer, tent (nursing), and transport sections, of cavalry and infantry field ambulances, and of all the different branches of general hospital staff. The personnel includes in rank and file more men than an infantry battalion, besides some hundreds of nurses. But it is impossible to compare such different bodies by mere numbers. The contrast becomes most marked when we come to officers.

An A.M.O. has to deal with from 100 to 150 medical officers and from 40 to 100 *à la suite* medical officers. In my own case I have had personal correspondence with nearly all of these, in many cases a lot of it. The appointment of all these gentlemen passes through the A.M.O.'s hands, and is mainly carried out by him—not by the C.O. of the combatant unit as stated by "Fair Play Secundus."

The correspondence of the A.M.O. is enormous. Postages alone, in my own case, have cost more than the ridiculously small grant of £20 allowed for my office. This, although we practise strictest economy by delivering by hand whenever possible, by keeping back communications till several can go for one stamp, etc.

Yet this is the unpaid work so little appreciated that even one of our own officers can write the letter of "Fair Play Secundus"! It is to be hoped that before he attains the rank of A.M.O. the overworked and ill-appreciated pioneers of the appointment may have succeeded in getting straw to make their bricks, and that his junior officers may have a truer sense of what is due to their seniors and to our corps.—I am, etc.,

April 26th. A.M.O.

Sir,—In reference to "Fair Play's" letter in the Journal of April 16th, the Adjutant R.A.M.C. of the School of Instruction of the Welsh Division does not act as adjutant for the medical units of the division. His duties are solely in connexion with the school of instruction. In my opinion, neither has this adjutant nor have the three sergeant-instructors attached to the school enough work to do.—I am, etc.,

William Sheen, Lieutenant-Colonel, R.A.M.C.(T.),
Officer Commanding R.A.M.C.(T.) School of Instruction, Welsh Division, Territorial Force, and 2nd Welsh Field Ambulance, R.A.M.C.(T.).

Cardiff, April 20th.

CONSULTANT, GENERAL PRACTITIONER, OR HALF-AND-HALF?

Sir,—Unless care is taken, this correspondence is likely to do more harm than good to "amicable professional relationship." As I said in my first letter, there are two sides to the question raised by "Enquirer's" original letter, and if this fact were recognized some good might be done, but to infer that the main body of consultants, whom "Professional Unity" may incorrectly call "half-and-half's" if he pleases, have no sense of ethical honour, or to ask such a question as "Is it because your visits to another man's patient would be easily observed by the other man, to the detriment of your reputation as a consultant, while the other man's patient's visits to you are not likely to be recognized?" shows how little the real situation is comprehended, and is likely to lead to greater friction.

I have already emphasized the fact that under no circumstances can a consultant undertake the independent treatment of a patient for any complaint which at the time is being treated by another man. Consequently

I am not concerned with "General Practitioner's" "half-and-half fraternity who try to excuse their breach of the ethical rule by the suggestion that they are acting in the interests of the patient." I simply maintain that any consultant or specialist has the right to see and treat any "free" patient who consults him, and in many instances, owing to the present attitude of the general practitioner, it is in the best interests of the patient for him to do so independently. Of course very much depends upon the nature of the case. For instance, the majority of cases which come to a consulting physician are of such a nature that the consultant must have the co-operation of the general practitioner. In surgery and gynaecology a lesser number come under this head. In the various specialities, such as eyes, ears, nose and throat, skins, etc., it is absurd to say that in the majority of cases the patient must not be seen or treated when unaccompanied by his family doctor. In all cases where it is advisable and practicable, the further treatment can be and is carried out by the general practitioner. General practitioners in many instances greatly add to the difficulty of friendly co-operation (1) by looking upon a consultation solely as a lesson for their own instruction in dealing with the present and future similar cases; and (2) by giving the patient no choice of a consultant, but insisting upon a particular man, using their old hospital teacher.—I am, etc.,

April 25th. EST MODUS IN REBUS.

GENERAL PRACTITIONERS AND POOR LAW REFORM.

SIR,—Dr. Vipont Brown admits that destitution stands for an "appalling reality," and it can scarcely be denied that it is because they have to deal with this "appalling reality" that guardians are destitution authorities. If the Minority scheme became law and the Education Committee looked after the destitute during the school age, and the Sanitary Committee attended to the destitute during sickness, most people would have thought that the above committees became destitution authorities for the same reason that the guardians are now. Because under these circumstances I unhesitatingly style the above committees destitution authorities, I am said by Dr. Brown to "do violence either to etymology or to obvious facts."

It is true the present guardians have to deal with the technically destitute—that is, "poor persons" who must submit to some test of their poverty; and the new destitution authorities would abolish all tests, and treat all "poor persons" as destitute in order to prevent them from becoming technically destitute. There may be the shadow of a distinction in this, and I should have thought more of it if Dr. Brown had not defined destitution as an appalling reality. On the whole, as all these bodies have got to do the same practical work, in spite of the above shadowy distinction, I prefer to regard them all as destitution authorities in spite of "etymology and obvious facts."

Dr. Brown need not descend to a "*tu quoque* argument"; whatever my views may be on the subject, I did not label the Minority scheme "socialism." If Dr. Brown had read my letter more carefully he would have seen that it was Professor Gilbert Murray who so labelled it. I only expressed assent to the correctness of the label.—I am, etc.,

MAJOR GREENWOOD,
Honorary Secretary, Poor Law Medical Officers' Association of England and Wales.

London, E.C., April 23rd.

THE INTERNATIONAL MEDICAL CONGRESS.

SIR,—With reference to the report upon the meeting of the Bureau of the Permanent Commission at The Hague, "The International Congresses," issued in No. 2572 of the BRITISH MEDICAL JOURNAL, I beg your favour to be given place for the following rectification:

I did not want Professor Waldeyer to be elected honorary member of the committee. On the contrary, I opposed to this idea. What I wanted was to persuade Professor Waldeyer to withdraw his resigning upon the membership in order to keep his person for the committee. I am happy to have succeeded in attaining this object. As to the question of the International Medical Press Association, I never spoke of the exclusion of the named association; I but supported the motion that at the same time when the Press Association gets the reports of the Congress, also all medical news should have them, in order to make the reports spread earlier and on a wider basis among the interested world.

I will not touch the other parts of the report, being in no stricter contact with my person. An official account of the meeting will probably in short be issued by the General Secretary of the Permanent Committee.

With many anticipated thanks, I am, etc.,

Budapest, April 21st. EMIL GRÓSZ.

FOXWELL MEMORIAL.

SIR,—We ask permission to call attention in your columns to a fund which has been opened with the object of perpetuating the memory of our late friend and colleague, Dr. Arthur Foxwell, whose untimely death by accident last year was, and still is, deeply deplored.

It has been decided that the memorial shall take the twofold form of a mural tablet to be affixed within the Queen's Hospital, and of an annual prize for a clinical essay open to residents of several Birmingham hospitals.

Personal friends, colleagues, and past house-physicians of Dr. Foxwell have subscribed for these purposes about £200, of which sum £150 is available for endowment of the prize.

If there are other friends and former associates of Dr. Foxwell who would wish to contribute to this memorial, we beg to intimate to them that the fund is not closed, and that we shall be grateful for any further subscriptions.—We are, etc,

J. T. J. MORRISON,
Chairman of the Medical Committee, Queen's Hospital.

O. J. KAUFFMANN,
22, Broad Street, Birmingham,
A. W. NUTHALL,
89, Cornwall Street, Birmingham,
W. F. HASLAM,
54, Newhall Street, Birmingham,
} Treasurers of the Fund.

Birmingham, April 25th.

Universities and Colleges.

UNIVERSITY OF MANCHESTER.

THE CHAIR OF CLINICAL SURGERY.

MR. F. A. SOUTHAM, M.A., M.B., F.R.C.S., has recently resigned his position as Professor of Clinical Surgery at the Manchester University, in view of the approaching expiration of his term of office as Honorary Surgeon to the Royal Infirmary. The Council of the University has appointed Mr. Wm. Thorburn, M.D., F.R.C.S., to the chair. Mr. Thorburn was appointed Assistant-Surgeon to the Infirmary in 1899 and Surgeon in 1899. He has had a long connexion with Owens College, Manchester University, and the Infirmary, both as student and a member of the teaching staff. In 1891 he obtained the Jacksonian prize of the Royal College of Surgeons, and in 1894 was Hunterian Professor of Surgery and Pathology, and he is now an Examiner in the University of London. His special contributions to surgical literature have been mostly on the diseases and injuries of the spinal cord.

UNIVERSITY OF DUBLIN.

THE following were among the degrees conferred at the Summer commencements on April 19th:

M.D.—H. S. Metcalfe.

M.B., CH.B., B.A.O.—J. H. Crane, M. A. Diemont, A. C. Hallowes, Beatrice M. Hamilton, C. B. Jones, R. E. Lee, H. S. Metcalfe, B. H. Moore, H. Müller, C. J. Pentland, G. P. H. Smiley, G. R. Watson.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—Florence W. Heyworth, L. J. Hollings, C. J. B. Inglis, T. H. Spence, B. C. Sen, A. O. Olaribigbe, C. M. G. Elliott, J. M. McLachlan, H. A. L. Guthrie, B. S. Bhandarkar, P. G. Bainbridge, H. D. Atherstone, C. T. Darwent, C. Popham, J. Fitzpatrick, J. J. O'Connell, J. J. Mulvie, Violet M. Tracey.

SECOND COLLEGE.—J. J. Dykes, L.D.S., S. E. Jones, E. Spence, W. Ainsley, A. B. Bull, B. M. Lynam, J. A. Whitla, W. Lessey, W. W. K. Duncan, Kathleen Wall, Lilian S. Wilkes, W. Martin, J. G. Lessey (with distinction), R. C. W. Spence, H. W. Ward, C. H. N. Baker, J. M. Hiddleston, H. C. Sutton, M. M'Closky, H. W. Cochrane, G. H. Hodges, W. J. Hogg, J. E. Rees, E. P. Dewar.

THIRD COLLEGE.—R. A. Mirzan, Ida M. Bernard, S. D. Large, W. W. W. Watt, W. L. Coullie, G. A. Macvea, W. W. McCowat, Dorothea L. Schwabe, C. E. H. Smith, H. A. Topalia, V. G. L. van Someren, T. R. G. Melrose, J. N. Robson, P. D. Banerji, D. B. Cama, I. C. Mackenzie, D. A. Evans, B. M. Nanavatty, H. Buksh, V. T. W. Eagles, B. S. Bhandarkar, T. E. Ferguson, B. C. Sen, C. Hunter, D. L. Hatton, K. Nath, J. A. Frost, T. N. Wilthew.

Final.—J. W. Hitchcock, G. F. Hegarty, C. J. Arthur, A. V. Heynemann, J. C. Hawkes, P. D. Banerji, H. C. Bankole-Bright, W. Crosse, W. T. Torrance, J. J. O'Callaghan, H. Chatterjee, R. F. Lunn, M. S. Freedman, W. C. L. Malone, H. W. Powell, D. Chand, M. J. Fraser, E. L. Hutchinson, V. Thomas, Ethelina E. M. Heynemann, M. R. Oalal, E. P. Ghose, H. H. Scott, J. D. Collins, R. Anderson, G. Wallace, E. A. S. Shaw, H. E. Bond.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have been approved at the examinations indicated:

Surgery.—*H. R. L. Allott, *M. Graves, †F. F. L. How, B. J. Nolan, *L. M. Potter, *†G. W. Simpson.
Medicine.—*†C. S. Foster, *M. Graves, †C. Pyper, *L. M. Potter, *A. H. Rich, *H. Stanger, †W. H. Watson.
Forensic Medicine.—K. Baylis, A. Cordon, M. Graves, C. Pyper, F. C. V. Thompson, R. P. Wylde.
Midwifery.—A. Cordon, H. P. Jelley, F. C. V. Thompson.
† Section I. * Section II.

The diploma of the Society has been granted to Messrs. K. Baylis, M. Graves, H. P. Jelley, B. J. Nolan, and L. M. Potter.

Medico-Legal.

SALE OF SHARE.

Vendor objects to the answer *re* "Sale of Share" in our issue of April 16th, p. 969: (*a*) That six months' introduction is far too long under the circumstances, and should be shortened by two-thirds. (*b*) That to share the profits during the introduction would be unfair to "Vendor."

*** (*a*) As was stated in our reply to "Vendor," the length of introduction is always a matter for agreement, and it is difficult to fix any customary time. In his particular case six months might be longer than necessary, but two months' introduction would seem very short. (*b*) The sharing of profits is also objected to, but from his letter "Vendor" would seem to be passing over expenses, which should be deducted before profits are estimated—for example, maintenance of "junior's house and surgery." In Barnard and Stocker's *Manual on Medical Partnerships* the following rules of procedure during introduction are laid down: (1) Profits shared equally between vendor and purchaser; or (2) for the first half of the time the vendor takes all the receipts and pays all expenses, and for the last half the purchaser; or (3) one of them takes all the profits, paying all the expenses, and making an allowance to the other. Perhaps one of these methods would meet with "Vendor's" approbation.

Medical News.

The Edinburgh District Lunacy Board has raised the salary of the Medical Superintendent (Dr. Keay) from £800 to £1,000.

A new nurses' home for the City of London Asylum, near Dartford, Kent, is to be opened by the Lord Mayor and the Lady Mayoress on May 28th.

We are informed *officieusement* that the fifteenth International Congress of Hygiene and Demography will probably be held in Washington, U.S.A., in September, 1912.

A conference under the auspices of the National Housing and Town Planning Council will be held at the Caxton Hall, Westminster, on Friday, May 6th, at 10.30 a.m., to consider town planning in Greater London.

The Brussels Medical Graduates' Association will hold an extra biennial dinner this day (Friday) at the Trocadero Restaurant, London, at 7 for 7.30 p.m. Tickets, price 5s., not including wine, can be obtained from the honorary secretary, Dr. Arthur Haydon, 23, Henrietta Street, Cavendish Square, W.

Practitioners and students may attend the in-patient teaching of the physicians of the National Hospital for the Paralysed and Epileptic, Queen Square, W.C., in the afternoon on Monday, Tuesday, and Friday of each week. Further particulars can be obtained on application to the Dean at the hospital.

A special meeting of the Royal Society of Medicine will be held on May 18th, at 5 p.m., at Morley Hall, George Street, Hanover Square, W., when Sir Almroth Wright, F.R.S., will open a discussion on "Vaccine Therapy: Its Administration, Value, and Limitations." The discussion will be continued on May 25th, June 1st, June 8th, and June 15th. Any Fellow who wishes to take part in the discussion is requested to communicate with the Honorary Secretaries.

A meeting of hygienists and others interested in public health will be held at the Hotel Cecil, Strand, on Thursday, May 5th, at 3.30 p.m., for the purpose of forming a British National Committee of the International Hygiene Exhibition to be held in Dresden next year. This committee will arrange for the British participation in the exhibition, which will be open from May till October, 1911. It is hoped that a large number will be present, and that the Government will send representatives of the various departments. All inquiries with regard to the exhibition should be addressed to the offices of the British Executive Committee, 47, Victoria Street, S.W. (telephone No. 3807 Victoria).

A quarterly court of the directors of the Society for Relief of Widows and Orphans of Medical Men was held on April 13th, Dr. Blandford, President, in the chair. Seventeen members of the court were present. Two members of the society had died since the last court, and their widows applied for assistance on behalf of themselves and their children. In both instances they were without any income whatever, and the court voted grants at the rate of £50 a year for each widow and £15 a year for each child. By its by-laws the society can only grant relief to the widows and orphans of its deceased members. Membership is open to any registered medical practitioner who at the time of his election is resident within a twenty-mile radius of Charing Cross. Full particulars and application forms for membership may be obtained from the Secretary, at 11, Chandos Street, Cavendish Square, W. The next election will be on July 13th. Application forms must reach the Secretary on or before June 22nd. The invested funds of the society now amount to £100,550. The annual general meeting will be held on May 26th, at 5 p.m.

As in the past couple of years, Trinity College, Dublin, has decided on two courses this year. The summer course will begin on June 6th, and the autumn course on September 19th. Each course, as before, will last three weeks. Mr. B. G. A. Moynihan has kindly consented to give a lecture inaugural to the work of the session on Monday, June 6th. Classes will be held in Medicine, Surgery, Gynaecology, Anatomy, Physiology, Pathology, Diseases of the Skin, Eye, Ear, Throat, and Nose; Radiology, and Urology. The teachers are members of the professorial staff in the School of Physic, or physicians, surgeons, or specialists connected with the Dublin hospitals. They aim at making the classes as practical as possible and suitable to the needs of doctors in general practice. Arrangements have been made by which a limited number of members of the class can reside in college rooms and dine on commons at an inclusive cost of £1 1s. per week. Any qualified medical man, whether a graduate of the Dublin University or not, may join the course and become entitled to all its privileges. Further details will be found in our advertising columns, or a syllabus can be obtained on application to the Honorary Secretary, 27, Lower Fitzwilliam Street, Dublin.

The usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on April 15th, 1910, Dr. de Havilland Hall in the Chair. The accounts showed that during the first quarter of this year the business of the society has been unusually good; as a rule the sickness claims are more numerous than in any other three months of the year, the extra number arising for the most part from bronchial affections, to which medical men, and especially those in general practice, are much exposed; but so far, the records of 1910 are exceptionally good, as the claims received have been both less in number and of shorter duration than usual. The committee were mainly occupied with the examination of the draft of the report of the society's business in 1909, which will be presented to the members at the annual general meeting to be held on May 19th. The year's working has produced "a satisfactory increase in the number of members and the invested reserves." In 1884 the funds of the Society amounted to £1,435 only; a large addition has been made to them every year until, at the end of 1909, the total amount of the society's invested funds was £233,376. The membership has grown from a few hundreds in 1884 to 2,831, and the amount distributed as sickness pay in 1884–5 was £843, and in 1900 £15,115. An appreciable part of the increase in the funds has been produced by the great economy with which the business has been conducted. No agents are employed, and no commission is paid for the introduction of new business. This may perhaps be the reason why the increase in membership has not been so rapid as the increase in wealth of the society, or the increase in the amount of useful work it does. Prospectuses and all particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

Obituary.

STEWART LOCKIE, M.D.EDIN.,

CONSULTING PHYSICIAN TO THE CUMBERLAND INFIRMARY.

IT is with great regret that we record the death of Dr. Lockie of Carlisle at the age of 74. He had withdrawn from practice in 1901, but continued to reside in Carlisle and to interest himself in the affairs of the city and of the medical profession in the district until quite recently, when his failing health greatly limited his activities.

Stewart Lockie was born in London, but while he was still a child the family removed to their old home in Berwickshire, and he received his early education at Earlston and at Kelso Grammar School. After serving a period of apprenticeship to a doctor in Kelso he went up to the University of Edinburgh in 1854. As a student Lockie was much influenced by Simpson, Goodsir, Christison, and Syme, and became a close friend of his fellow-student, (afterwards Sir) Thomas Grainger Stewart. He graduated M.D.Edin. in 1858, and became L.R.C.S Edin. in the same year. Shortly afterwards Dr. Lockie was appointed resident medical officer to the Carlisle Dispensary, where the qualities of heart and head which afterwards raised him to a leading position in the city of his adoption were disclosed. He not only discharged his medical duties with assiduity, but, struck by the ignorance of the people among whom he practised, he opened night classes in the Central Schools, where for over a year he taught reading and the rudiments of arithmetic to working men. The appointment at the dispensary was for two years, but at the request of the committee Dr. Lockie continued for a third year, and then, in 1861, began private practice in Carlisle. In 1865 he was appointed honorary visiting physician to the dispensary, a position he resigned three years later on his appointment to be physician to the Cumberland Infirmary.

Photograph by STEWART LOCKIE. *B. Scott & Co., Carlisle*

When Dr. Lockie was first appointed the Infirmary consisted, to quote his own words, "of the central block only, with an imposing frontage, it is true, but excessively inconvenient in its internal arrangements. The wards were all small, and they were overcrowded." Nominally intended for fifty patients, they would barely accommodate forty. Dr. Lockie was very regular in his attendance at the weekly meetings of the Committee of Management, and it was largely due to his representations that an extension scheme was carried out in 1873, providing accommodation for 100 patients. At this time Dr. Barnes also was appointed honorary physician to the infirmary, and the two remained colleagues for a quarter of a century. In the early days the honorary medical staff were elected by the governors, a system which involved an extensive canvass. Dr. Lockie carried a proposal to substitute a committee of election which has since acted for the governors in selecting the members of the honorary medical staff, a plan which has worked very satisfactorily, and is now very general throughout the country. When, in 1897, he resigned the office of Honorary Physician, the governors appointed him Consulting Physician, and in 1901 chose him to be a Vice-President of the infirmary.

When the Cumberland and Westmorland Branch of the British Medical Association was formed in 1868, he became its Honorary Secretary, a position which he retained for two years. In 1877 he was elected President of the Branch, and on that occasion delivered an interesting address on some anomalies of disease. When in 1901 he finally retired, after forty years of active practice, he received many tokens of the esteem in which he was held by his fellow-citizens and professional brethren. From his patients and friends he received a presentation consisting of a silver flower bowl and a cheque for £300, while his professional brethren in Carlisle and the neighbourhood presented him with an illuminated address, and two portraits which now hang, one in the board room of the Infirmary, and the other in the board room of the Dispensary.

Dr. Lockie, as has been said, was very actively engaged in practice throughout his life, but though he wrote little, he kept himself well acquainted with the progress of medicine, and even after his retirement took a prominent part in the establishment of Blencathra Sanatorium for Consumption. He not only gave his influence to the promotion of the movement, but handed over to the fund which was being raised the pecuniary part of the testimonial he had received in 1901 from patients and friends, adding to the sum a personal donation of £100. Dr. Lockie had a very lofty conception of the duties and responsibilities of the physician, and his opinion as a consultant was highly valued, for he had won the confidence and esteem alike of his medical colleagues and of the public. He was thorough in all he did, careful and painstaking in diagnosis, and wholly devoted to his professional work and to his profession. His knowledge of medicine and his conscientiousness in the discharge of the obligations it imposes, combined, with his shrewd and kindly character, greatly to endear him to the young men who came under his influence, and on his retirement from the Infirmary he was entertained at dinner in Carlisle by a large number of old house-surgeons, some of whom travelled long distances to be present. His hosts at this dinner presented him with an epergne and an album containing the photographs of many of the donors.

Although so busily engaged in the many directions already indicated, Dr. Lockie was a well-read man, his habit of early rising affording the needed leisure. In his early days longer escapes from work were devoted to rambles through the Lake country, which he knew from end to end. At a rather later age than most men he became an Alpine climber, and attained considerable skill in that difficult sport. When advancing years warned him to abandon it, he replaced climbing by cycling and golf.

Dr. Lockie married in 1868 Miss Doeg, of Carlisle; there was one child of the marriage, which died in infancy, and Mrs. Lockie herself died after six years of wedded life. Her husband did not marry again, but resided with his sister until his death.

At a meeting of the Committee of Management of the Cumberland Infirmary on April 20th the following resolution was adopted:

> That the committee have heard with deep regret of the death of Dr. Lockie, Consulting Physician to the Infirmary, and a Vice-President of the Institution. They desire to put on record their appreciation of the eminent services which Dr. Lockie has rendered to the Infirmary during a period extending over thirty years. Appointed Honorary Physician in 1868, Dr. Lockie discharged the duties of the office with singular whole-heartedness, zeal, and regularity until his resignation in 1897, and as a member of the Committee of Management gave in addition much valuable time and assistance in all matters connected with the enlargement and improvement of the Infirmary. His work among the patients was invaluable, while his unfailing courtesy and kindness of heart endeared him to all. The committee desires to express to Miss M. A. Lockie and to his other relatives their sincere sympathy with them in their bereavement.

The funeral took place on April 21st, and was attended by a very large number of medical men in Carlisle and the neighbourhood, and by representatives of the Committee of Management of the Infirmary. The first part of the service was held in St. Mary's Church, and the interment took place at Carlisle Cemetery.

PETER YOUNG, L.R.C.S.Edin.,

DUNDEE.

We regret to announce the death, on April 19th, from pneumonia, of Dr. Peter Young, the senior member of the medical profession in Dundee. Dr. Young was born in highland Perthshire in 1827, and, having abandoned theology for medicine, studied at the Andersonian College in Glasgow, and took the diploma of the Royal College of Surgeons in Edinburgh in 1886. After a period of country practice in the Carse of Gowrie he settled in Dundee fifty years ago, and acquired a large general practice. He was in special favour as an accoucheur, and it is one of the honourable traditions of the profession in Dundee that before the days of specialists and antiseptics Dr. Young preserved the life of a mother and child by Caesarean section.

Dr. Young took a full share in public work as a member of the old Parochial Board, but his special enthusiasms were manifested as a Volunteer Medical Officer in the Dundee Highlanders, as Chieftain of the Dundee Highland Society, and in the promotion of total abstinence. About a dozen years ago he retired from active practice, but till within a week his hale figure was familiar in the street, and his kindly greeting welcome to all who knew him. He was formerly a member of the British Medical Association, and his son, Dr. C. S. Young, has just been nominated by the Council of the Dundee Branch as President elect. His younger son is Lecturer on Veterinary Hygiene in Aberdeen University.

JOHN SPARK, M.R.C.S., L.R.C.P.,

KATOOMBA, N.S.W.

Dr. John Spark died at Katoomba, on the Blue Mountains, in the early part of last month. He was born at Twickenham, Middlesex, in 1853, where his father had an extensive practice. He was the eldest of a family of eight, and only one sister now survives. At the age of 14 his father died, and young Spark was educated for the medical profession by some friends. At the age of 18 he was dispenser for a doctor with a large practice in the City of London. He was educated at St. Bartholomew's Hospital, and completed his course with credit. He obtained the qualifications of M.R.C.S.Eng. and L.R.C.P.Lond. After acting as an assistant in High Holborn for seven years, he went to Devonshire, but his health failing, he took several trips to South America and Australia. He went to Katoomba at the end of 1886, and spent the rest of his days there. He married in 1893, and has left a wife and seven children. He was an alderman for several years, and was mayor for one year, but always declined the honour subsequently, although repeatedly pressed to accept office again. He filled several other positions in the town. Practically for all the years of his life at Katoomba he was struggling against pulmonary tuberculosis, but about two years ago he had an attack of cerebral haemorrhage which completely crippled him. Another attack resulted in his death in a few hours. His funeral was the largest ever seen on the Blue Mountains, all business being suspended as the *cortège* passed through the town.

INSPECTOR-GENERAL COPPINGER, R.N.

Inspector-General Richard W. Coppinger, whose death at the age of 62 occurred at his residence, Wallington House, Fareham, on April 2nd, came of a well-known Irish family. He was educated in Dublin, and graduated M.D. of the old Queen's University in 1870.

After joining the Medical Service of the Navy Dr. Coppinger was appointed Surgeon to the *Alert* and took part in the Arctic Expedition of 1875–6. While serving in the Arctic Dr. Coppinger distinguished himself as scientist in charge of one of the sledging parties, receiving special promotion to the rank of Staff Surgeon and being granted the Arctic medal.

Early in 1889, on returning to England after service as Principal Medical Officer in the *Nelson*, the flagship on the Australian Station, Dr. Coppinger was appointed to the Royal Naval Hospital, Haslar, in charge of the Junior Surgical Section and as Instructor in Naval Hygiene to the surgeons on entry. Here he distinguished himself both by his work in the wards, his knowledge of microscopy and bacteriology being far in advance of his time, and as instructor, his well-known knowledge of mechanics helping him considerably. In the latter post Dr. Coppinger will be remembered with gratitude by generations of naval medical officers, both for his power of imparting knowledge and for his invariable courtesy and kindness.

Promoted to the rank of Deputy Inspector-General, Dr. Coppinger was selected for appointment as Medical Officer in Charge of the Royal Naval Hospital, Jamaica, and he there received early promotion to the rank of Inspector-General. After a period of half-pay Dr. Coppinger returned to the scene of his former labours as Inspector-General of the Royal Naval Hospital, Haslar, serving for the full three years and being placed on the retired list at a comparatively early age as there was no further employment available. This was very keenly felt by him, but it is one of the disadvantages consequent on too early promotion. There is no doubt that by his retirement a very keen professional officer was lost to the service, and it was in the purely professional part of his work, particularly the scientific side of it, in which he excelled.

GEORGE W. SIDEBOTHAM, V.D., M.R.C.S., L.S.A.,

LIEUTENANT-COLONEL R.A.M.C. (TERRITORIAL).

All old and new friends of George Sidebotham will regret to hear of his death on April 15th at Bournemouth.

He was a student at the Old Manchester School when it was amalgamated with the Owens College, and all his fellow students will remember the kindly, courteous manner which was characteristic of him throughout his life. He was a diligent youth, and took the diploma of L.S.A. in 1876 and that of M.R.C.S. in 1877. He settled down at his native place, Hyde, Cheshire, near Manchester, and until about fourteen years ago was engaged in busy practice. Then for upwards of twenty years he was the leading practitioner in the town, holding the appointments of Medical Officer of Health, Certifying Factory Surgeon, Medical Officer and Public Vaccinator, Hyde District of the Stockport Union; Medical Officer to Post Office, and Surgeon, Great Central Railway.

For thirty years he had been a member of the British Medical Association, and was present at the meeting at Belfast last July as the Representative of the Shropshire and Mid-Wales Branch. He had resided at Newport since retiring from practice. He had been connected with the Volunteer movement for many years, and was a loyal and enthusiastic officer, and had done much important and useful work in connexion with the organization of the medical branch of the Territorial Forces, and at his death was in command of the Welsh Border Mounted Infantry Brigade Field Ambulance.

Despite the busy life the conduct of a large practice and the above appointments entailed, he was always a keen scientific student, and was a member of the Manchester Literary and Philosophical Society, contributing valuable papers to its proceedings. He was also a member of the British Astronomical Society, and accompanied Sir Robert Ball to the North Cape some years ago to observe the eclipse. He was an enthusiastic Freemason, and Past Master of the Lodge "Industry, 361," Cheshire.

Dr. Sidebotham leaves a widow but no family, and in him passed away a man much beloved by all who came in contact with him, and one of the best types of practitioner.

Dr. G. H. Broadbent writes: I had the pleasure of meeting him and of reviving our old friendship at the Representative Meeting at Exeter, and it seemed a real pleasure to him to inquire about old friends and talk of old times. He seemed then to be in splendid health, and his death has come as a great shock. All Manchester medicals sympathize with his wife and brother.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

THE DRUG HABIT: TOBACCO.

M. Y. S. writes: Will any fellow member give me a prescription, tip, or wrinkle for the cure of the tobacco habit? The vicious circle is simple enough: depression—tobacco—indigestion—worse depression—more tobacco—and so on and so on. Mere will power seems no longer able to control what amounts to an irresistible craving. Platitudes and appeals to reason are not wanted. The former I can devise for myself, the latter I have made only too often. I have also been through the whole gamut of sermons and philosophy, and now require something that will counteract the craving for a while, whilst the blood clears itself of the toxaemic condition induced by the drug and the will has a chance to assert itself. A man in a state of toxaemia from a drug is scarcely likely to be able to exert that vigour of will which will cure himself, and neurasthenia will shortly result unless the drug habit be cured; and it has already itself induced a condition of will so weakened that a cure by mere force of the man's own will is hopeless. He needs something analogous to the gold chloride of the alcoholic.

INCOME TAX.

TAMESIS is continuing a practice formerly carried on in partnership, the partnership having been dissolved in March last. He wishes to know how to complete the partnership and private income tax return forms.

*** The partnership form should be returned with a note to the effect that the partnership was dissolved on a certain date and that our correspondent is now the sole practitioner. The private form should be completed with a statement of the average profits of the *firm*, as explained in last week's issue, and a note made on page 2 of the return that the return is provisional only, and that the profits will probably be less on account of the dissolution of the partnership (if this be in fact probable). At the end of the year, when the profits are known, an appeal should be made if the assessment prove to have been excessive.

CAR LICENCE AND PETROL DUTY.

MAJOR I.M.S. inquires what is the tax on a 15-h.p. car, and whether, although not strictly in practice in England but on study leave from India, he can get remission of one-half the licence duty and petrol tax.

*** The full tax on a 15-h.p. car under the 1909–10 Finance Act when passed will be £4 4s. It is doubtful whether our correspondent will be able to satisfy the Commissioners or council that the car is "kept by him for the purpose of his profession," although he may use it to a considerable extent in getting to medical centres. With regard to the petrol tax, if it were admitted by the Commissioners that the use to which the car is being put constituted use for the purposes of his profession, the relief would be restricted to the petrol consumed while the car was actually being used in that way. The best course will be for our correspondent to write in the first place to the Commissioners of Customs and Excise at the Customs House asking for a ruling on the subject.

ANSWERS.

LUNA.—The friends acting in this case should follow the natural plan of first making inquiry of the county or city asylum for the place where the patient's home may be; failing that, of inquiry at the next nearest, and so on, until suited. Many private asylums will take ordinary private cases at one guinea a week. Has applicant consulted the advertisement columns of the BRITISH MEDICAL JOURNAL? The steps to take as regards the Lunacy Laws would be those precisely as for any other private case—different forms from pauper, and *two* medical certificates (not *one*), if the case is of an ordinary type.

THESIS FOR M.D.

NEMO, M.B., M.R.C.S.—In the regulations for the degree of M.D. at Edinburgh University, and concerning the submitting of a thesis, it is laid down: "And the thesis, accompanied by a declaration signed by the candidate that the work has been done and the thesis composed by himself. . . ." Any help consistent with such a declaration is legitimate.

STOVE FOR INVALID'S BEDROOM.

COLONEL R. H. FORMAN, A.M.S. (Bombay), writes: In your issue of March 19th correspondents recommend various stoves to "H.," a previous correspondent. If any of those gentlemen, or any other medical man, wants a thing of this sort, either for the sick room or for general heating, let me recommend them to write to the Secretary, Bastian Electric Heating Syndicate, Limited, 3 and 4, Great Winchester Street, E.C. The Bastian patent is quite a new departure in electric heating, its essential feature being "glowers" of quartz tubing capable of being made red hot in less than half a minute. It is clean, efficient, and, last but not least, cheap.

SOURED MILK.

L. O. S.—Soured milk, when properly prepared and not stirred, consists of a fairly solid but soft curd, with more or less of watery whey; when gently stirred, or shaken and poured from one vessel to another, the curd and whey readily mix, and the mixture is then of the consistence of rather thin custard, or milk thickened with arrowroot as prepared for invalids' food. A hard curd which would not mix with the whey would probably indicate that the souring had been partly caused by other organisms than the Bulgarian bacillus. Unless the milk is very decidedly sour to taste, the incubation with the bacilli has not been carried on for long enough, and the preparation cannot be of much value.

EXAMINATION FOR D.P.H. DUBL.

B. A. J. F. can take out a short revisional practical course in bacteriology and in chemistry for the D.P.H. (Dublin Conjoint) either in the laboratories of the Royal College of Surgeons School, Dublin, or in those of Trinity College, at any period of the year except during the months of July, August, and September. Information concerning such courses can be obtained from the Registrar of the respective schools on arrival in Dublin. For the theoretical part of the examination a private coach might be obtained, but the large majority of candidates rely solely on private reading. The names of private teachers can usually be ascertained by inquiry in the medical schools.

TREATMENT OF ULCERATIVE COLITIS.

DR. GEO. STEELE-PERKINS (London, W.) writes: In answer to "H. S.," I would suggest his trying careful abdominal massage and vaccine treatment.

DR. PERCY NEWELL (St. Leonards-on-Sea) writes: I would mention that Hare says that ammonium chloride in grain doses every five hours is efficacious, especially if it be given in alternation with 3 grains of potassium iodide—for intestinal catarrh. Why not try it for ulcerative colitis? The liquid extract of hysterionica is credited with curative effects in these cases. Chatel-Guyon water is also recommended.

B. B. B. writes: In reply to "H. S.'s" query, I might draw his attention to a native Indian remedy, ispagool, which consists of the seeds of *Plantago ovata*. An infusion is made with a teaspoonful of seeds to a cup of boiling or hot water. The seeds swell and a mucilaginous fluid results. This is drunk *ad lib.* The sediment of seeds also is swallowed in native practice. The drug was investigated by the Indian Government, and was found to contain no active principle, its action being apparently entirely due to the mucilage taken in such abundant quantity, and possibly any other mucilage taken in similar quantity might do. I treated a case successfully on these lines, along with bi. salicyl. gr. xx doses four-hourly. The method is simple, harmless, and worth a trial. Ispagool is mentioned in the Indian and Colonial Addendum of Martindale's *Extra Pharmacopoeia*, and can be got from them, but the decoction must be taken freely, not merely in ʒij doses.

DR. W. FINGLAND (Liverpool) writes: I have treated three cases of this disease successfully, and without recurrence, with fluid extract of aplopappus baylahuen (Parke, Davis), 20 minims, three times a day, in a tablespoonful of cream.

*** *Aplopappus baylahuen* (or *Hysterionica baylahuen*) is a composite herb, a native of Chili. It owes its medicinal qualities to a resin and volatile oil, the former acting chiefly on the bowels and urinary passages, and the latter like the terebinthinates upon the lungs. It is said to possess the advantage that it does not disorder the stomach and bowels. Its use has been recommended in chronic diarrhoea, especially of the tuberculous variety and in chronic cystitis (see Hare, Caspari, and Rusby's *National Standard Dispensatory* and Wood Remington and Sadtler's *Dispensatory of the United States of America*).

LETTERS, NOTES, ETC.

Treatment of Excessive Perspiration.

Dr. Agnes F. Savill (London) writes: In the British Medical Journal of January 1st, 1910, Dr. A. Howard Pirie describes his method of treatment of excessive perspiration by *x* rays. Early in 1907 I had a similar case of profuse perspiration of the armpits occurring in a man over 30 years old. I employed my "ringworm shield" with wooden pegs. The whole armpit was exposed, and half a Sabouraud pastille dose administered at each sitting. Between March 22nd and May 30th he had ten sittings at intervals of about a week. Improvement began about the end of April. On May 30th the hairs began to fall out. I saw the patient a year later; the axillae were slightly pigmented, the hairs had not returned, and the perspiration was almost *nil*, and had never troubled him during the year.

Modern Miracles.

Dr. Chas. R. Chichester (Calabar, S. Nigeria) writes: In your issue of November 27th, 1909, I note an article entitled "Looking Back; or a Glance from Empiricism to Experiment—from Superstition to Research," in which is given an account of an address delivered by Sir Henry Morris, Bart. In it he said "the miracles associated with the career of St. Ambrose looked like impostures"; "the tactics of St. Ambrose . . . recalled the procession of the multitudes one had seen at Lourdes," etc.; "all the ecclesiastical miracles were highly improbable." Might I suggest to Sir Henry, and to others interested in these matters, that they put themselves into communication with Dr. Boissarie, the chief of the Medical Bureau at Lourdes? He and they will hear something that will give them food for thought about cures which have happened at Lourdes within recent years, the subjects of which are still alive. If Sir Henry has been to Lourdes he will doubtless have met Dr. Boissarie, noted the extreme care which is taken by medical men of any or no religious belief in examining the sick, the rigid investigation to which those who are said to have been miraculously cured are subjected, the many cases which have been cured, and the very few which are admitted to have been "miraculously" cured. Nothing would please Dr. Boissarie so much, I fancy, as to see a committee making "a careful scientific investigation" into the cases of people, still alive, who are alleged to have been "miraculously" cured; and I feel sure that every assistance would be given to the committee.

An Effect of Tea.

H. E. B. writes: I have read the correspondence on an effect of coffee with interest, as I have myself an idiosyncrasy to tea, more particularly to Indian tea, which I have never been able to overcome. Whenever I take tea I go through a regular procession of events, most distressing and stultifying. Shortly these are as follows: Within fifteen minutes of walking (movement seems to be essential) I feel hot about the scalp and knees; the former feels as if pepper were dusted all over it; then I partially lose my sight and hearing, and, if in conversation, cannot say more than "Yes" or "No" because I am so faint and listless; then I lose the power of walking quite straight, and choose the wall side of the path; lastly, I break out into a general perspiration, and within forty-five minutes I return to my senses. I have consulted many medical men but have never found any means of relief. The only way is to shun tea. Occasionally I have found patients affected similarly without knowing the reason, and I think that more attention might be given to the peculiar effects upon people of the varied foods now in general use.

The Survival of Bed Bugs.

Dr. W. Habgood, M.O.H. (Sutton, Surrey), writes: In the last five lines of the article on "Flock Bedding," p. 1013, it is stated that "bed bugs are believed to be incapable of surviving many days without food." As this is contrary to my experience, I think you might be interested to learn that on having a house cleansed on September 1st, 1909, my inspector collected for me about twenty-five or thirty bugs and placed them in a clean bottle with a piece of clean white calico and a piece of clean white paper. On October 26th all were alive; on January 21st three or four old ones and one young one were alive; and on February 26th, 1910, that is nearly six months after capture, one large bug was seen to be running actively over the paper after the bottle had been warmed at a fire. I should say that the mouth of the bottle was covered with a piece of clean calico. My object in making the experiment was to see if the statement made by the ingoing tenants of a house that had been empty for months, that the bugs they complained of were in the house before they took possession, could be true.

The Prevention of Destitution Bill.

Dr. A. Stayt Dutton (Oxford) writes: At a time when many kinds of reform, social and otherwise, are suggested, it is certainly advisable to look cautiously before the leap is taken into the question of what is to be gained by altering existing conditions. Of all reforms, that which most requires attention is doubtless of an economic nature, and the remark of a late Premier that some thirteen millions of persons in the British Isles were living on the verge of starvation is a noteworthy expression of opinion. However closely or otherwise this estimate may approximate to the exact condition, it is evident that in all parts of the kingdom there are large numbers of individuals, in addition to paupers and unemployed, who are receiving remuneration for their work that barely enables them to provide satisfactorily for themselves and their families, to say nothing of making provision for a rainy day. The important need is for legislative measures which will increase the demand for labour of all kinds, when better remuneration will follow; and, with the improved state of things, many of the undesirable social conditions—as pauperism, unemployment, overcrowding, defective housing, clothing, and food supply—be to a large extent automatically relieved; but, until such occurs, it is distinctly open to doubt whether a rearrangement of the Poor Law system would have any increased effect in the prevention of destitution.

Consultant, General Practitioner, or Half-and-Half?

Fulham Road writes: As a general practitioner of twenty years' standing, whose patients have included the nobility, gentry, and for the most part the middle classes, I should like to say most truthfully that I cannot recall a single instance where I have been treated anything but well by the consultants. I think the crux is this: Should a patient approach a consultant independently? I say, "Certainly he should, if he so wish." If he has been in my care, I have obviously failed to cure him, or he would not go farther. Now what does the general practitioner stand to lose should he not attend the consultation?

1. *Financially.* Should he attend the consultation, he probably receives a guinea fee. How much of this does he take home? The general practitioner spends something in reaching the physician's house. The consultation over, he calls at the club for a bit of lunch. He there meets an old friend, and perhaps has "fifty up" with him, or joins in a little game of "snooker." Very likely loses half a crown. General practitioner then starts for home. With commendable self-control he tarries not at the fruit shops in Bond Street, but succumbs at the jeweller's, where he buys a trinket for his deserving wife, whom he remembers he has been worrying for the past week because this patient did not get well.

2. *Otherwise.* What has he to gain by listening to the consultant's opinion should he go? What does he have to fear from the physician's criticism? Unless the general practitioner has been lamentably slack he will have examined his patient by inspection, percussion, auscultation, with the exploring needle, the ophthalmoscope, laryngoscope, urethroscope, sphygmoidoscope, and not have failed to use the sphygmomanometer. He will have counted the corpuscles, determined the opsonic index, and certainly not have forgotten the diagnostic value of the reactions of von Pirquet, Maro, and Calmette, while the patient will carry with him to the consultant the series of excellent skiagrams which have been taken. General practitioner will surely have recommended his patient to take breathing exercises and a course of "physical culture," exhibited all the ordinary drugs, injected him with the arylarsonates to the verge of blindness, and have vaccinated him with the six more familiar vaccines. "High frequency" he will *not* have mentioned, that being "a thing of the past."

Now, Sir, I am sorry for the consultant. The patient expects much from him. But what can he do? Aëroplanes not yet being upholstered sufficiently comfortably for an invalid, the physician will probably suggest a voyage to Egypt, and tell him to buy a box of the Carlton House capsules to eat on the way, should the patient be "well-to-do"; or, if he be but a man of scanty means, the consultant will probably prescribe him the very latest thing in compressed drugs, and advise a meal, three times a day, of sour milk. My only regret is that I have not yet been asked to pay my income tax.

A Schoolboy's Description of the Spine.

A schoolboy being required to describe the spine, said: "The spine is a chain of bones running up and down your back. Your head sits on one end. You sit on the other."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
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An average line contains six words.

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Note.—It is against the rules of the Post Office to receive *postes Restante* letters addressed either in initials or numbers.